

**REPORT NUMBER: 208-MGA-2005-016**

**VEHICLE SAFETY COMPLIANCE TESTING  
FOR  
FMVSS 208, OCCUPANT CRASH PROTECTION  
FMVSS 212, WINDSHIELD MOUNTING  
FMVSS 219, WINDSHIELD INTRUSION (PARTIAL)  
FMVSS 301, FUEL SYSTEM INTEGRITY**

**Hyundai Motor Company  
2005 Hyundai Elantra 4 Door  
NHTSA No.: C50501**

**PREPARED BY:  
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**Test Dates: November 12, 2004 – April 18, 2006**

**Final Report Date: October 27, 2006**

**FINAL REPORT**

**PREPARED FOR:  
U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
OFFICE OF ENFORCEMENT  
OFFICE OF VEHICLE SAFETY COMPLIANCE  
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FINAL REPORT ACCEPTED BY OVSC:

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<b>16. Abstract</b> Compliance tests were conducted on the subject 2005 Hyundai Elantra 4 Door in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP208-12 and TP208-13 for the determination of FMVSS 208 compliance. Test failures identified were as follows:  <b>TEST FAILURES:</b> The vehicle did not meet all of the performance requirements. Complete details are available in Section 4, Page 6, Discussion of Tests.			
<b>17. Key Words</b>  Frontal Impact 40 kmph Vehicle Safety Compliance Testing FMVSS 208, "Occupant Crash Protection" FMVSS 212, "Windshield Mounting" FMVSS 219, (partial), "Windshield Zone Intrusion" FMVSS 301, "Fuel System Integrity"		<b>18. Distribution Statement</b> Copies of this report are available from the following: NHTSA Technical Information Services (TIS), Mail Code: NPO-230 400 Seventh Street, S.W., Room 5108 Washington, D.C. 20590 Tel. No.: (202) 366-4946	
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**SECTION 1**  
**PURPOSE OF COMPLIANCE TEST**

The tests performed are part of a program conducted for the National Highway Traffic Safety Administration (NHTSA) by MGA Research Corporation (MGA) under Contract No. DTNH22-03-D-11002. The purpose of this test was to determine whether the subject vehicle, a 2005 Hyundai Elantra 4 Door, NHTSA No. C50501, meets certain performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Mounting"; FMVSS 219, "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity". The compliance test was conducted in accordance with OVSC Laboratory Test Procedure No. TP208-12 dated January 14, 2003 and TP208-13 dated July 27, 2005.

## SECTION 2

### TESTS PERFORMED

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance

NHTSA No.: C50501  
 Test Dates: 11/12/04-4/18/06

The following checked items indicate the tests that were performed:

- |                                     |     |   |
|-------------------------------------|-----|---|
| <input checked="" type="checkbox"/> | 1.  | Rear outboard seating position seat belts (S4.1.1.2(b) & (S4.2.4))  |
| <input checked="" type="checkbox"/> | 2.  | Air bag labels (S4.5.1)   |
| <input checked="" type="checkbox"/> | 3.  | Readiness indicator (S4.5.2)  |
| <input checked="" type="checkbox"/> | 4.  | Passenger air bag manual cut-off device (S4.5.4)  |
| <input checked="" type="checkbox"/> | 5.  | Lap belt lockability (S7.1.1.5)   |
| <input checked="" type="checkbox"/> | 6.  | Seat belt warning system (S7.3)   |
| <input checked="" type="checkbox"/> | 7.  | Seat belt contact force (S7.4.4)  |
| <input checked="" type="checkbox"/> | 8.  | Seat belt latch plate access (S7.4.4)   |
| <input checked="" type="checkbox"/> | 9.  | Seat belt retraction (S7.4.5)   |
| <input checked="" type="checkbox"/> | 10. | Seat belt guides and hardware (S7.4.6)  |
| <input checked="" type="checkbox"/> | 11. | Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart R)   |
| <input checked="" type="checkbox"/> | 12. | Suppression tests with newborn infant (Part 572, Subpart K)   |
| <input checked="" type="checkbox"/> | 13. | Suppression tests with 3-year-old dummy (Part 572, Subpart P)   |
| <input checked="" type="checkbox"/> | 14. | Suppression tests with 6-year-old dummy (Part 572, Subpart N)   |
| <input checked="" type="checkbox"/> | 15. | Test of reactivation of the passenger air bag system with an unbelted 5 <sup>th</sup> percentile female dummy |
| <input type="checkbox"/>            | 16. | Low risk deployment test with 12-month-old dummy (Part 572, Subpart R)  |
| <input type="checkbox"/>            | 17. | Low risk deployment test with 3-year-old dummy (Part 572, Subpart P)  |
| <input type="checkbox"/>            | 18. | Low risk deployment test with 6-year-old dummy (Part 572, Subpart N)  |
| <input checked="" type="checkbox"/> | 19. | Low risk deployment test with 5 <sup>th</sup> female dummy (Part 572, Subpart O)                              |
| <input checked="" type="checkbox"/> | 20. | Impact Tests  |
| <input type="checkbox"/>            |     | Frontal Oblique   |
| <input type="checkbox"/>            |     | Belted 50 <sup>th</sup> male dummy driver and passenger (0 to 48 kmph) (S5.1.1(a))                            |
| <input type="checkbox"/>            |     | Unbelted 50 <sup>th</sup> male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a)(1))                       |
| <input type="checkbox"/>            |     | Unbelted 50 <sup>th</sup> male dummy driver and passenger (32 to 40 kmph) (S5.1.2(a) (1) or S5.1.2(b))        |
| <input checked="" type="checkbox"/> |     | Frontal 0°  |
| <input type="checkbox"/>            |     | Belted 50 <sup>th</sup> male dummy driver (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))                         |
| <input type="checkbox"/>            |     | Belted 50 <sup>th</sup> male dummy passenger (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))                      |
| <input type="checkbox"/>            |     | Belted 5 <sup>th</sup> female dummy driver (0 to 48 kmph) (S16.1(a))  |
| <input type="checkbox"/>            |     | Belted 5 <sup>th</sup> female dummy passenger (0 to 48 kmph) (S16.1(a))                                       |
| <input type="checkbox"/>            |     | Belted 50 <sup>th</sup> male dummy driver and passenger (0 to 56 kmph) (S5.1.1.(b)(2))                        |
| <input type="checkbox"/>            |     | Unbelted 50 <sup>th</sup> male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a) (1))                      |
| <input type="checkbox"/>            |     | Unbelted 50 <sup>th</sup> male dummy driver (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))                      |

		Unbelted 50 <sup>th</sup> male dummy passenger (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
	X	Unbelted 5 <sup>th</sup> female dummy driver (32 to 40 kmph) (S16.1(b))
	X	Unbelted 5 <sup>th</sup> female dummy passenger (32 to 40 kmph) (S16.1(b))
		40% Offset 0° Belted 5 <sup>th</sup> male dummy driver and passenger (0 to 40 kmph) (S18.1)
	21.	Sled Test: unbelted 50 <sup>th</sup> male dummy driver and passenger (S13)
	22.	FMVSS 204 Indicant Test
X	23.	FMVSS 212 Indicant Test
X	24.	FMVSS 219 Indicant Test
X	25.	FMVSS 301 Indicant Frontal Test

For the crash tests, the vehicle was instrumented with 8 accelerometers. The accelerometer data from the vehicle and dummies were sampled at 10,000 samples per second and processed as specified in SAE J211/1 MAR95 and FMVSS 208, S4.13.

The dynamic tests were recorded using high speed film and high speed digital video.

The vehicle did not meet all of the performance requirements. Complete details are available in Section 4, Page 6, Discussion of Tests.

### SECTION 3

#### INJURY RESULT SUMMARY FOR FMVSS 208 TESTS

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance

NHTSA No.: C50501  
 Test Dates: 2/23/05

#### 5<sup>th</sup> Percentile Female Low Risk Deployments

##### 5<sup>th</sup> Percentile Female SN 506 Position 1 (Chin On Module) 2-23-05

Injury Criteria	Max. Allowable Injury Assessment Values	Measured Value
HIC15	700	8
Peak Nij (Nte)	1.0	0.3
Time (ms)	NA	13.1
Peak Nij (Ntf)	1.0	0.3
Time (ms)	NA	9.1
Peak Nij (Nce)	1.0	0.1
Time (ms)	NA	11.6
Peak Nij (Ncf)	1.0	0.0
Time (ms)	NA	2.2
Neck Tension	2070 N	1118
Neck Compression	2520 N	77
Chest g	60 g	8
Chest Displacement	52 mm	6
Left Femur	6805 N	44
Right Femur	6805 N	119

Second stage fire time of 120 ms; Injuries calculated on 0 ms to 245 ms

##### 5<sup>th</sup> Percentile Female SN 516 Position 2 (Chin On Rim) 2-23-05

Injury Criteria	Max. Allowable Injury Assessment Values	Measured Value
HIC15	700	6
Peak Nij (Nte)	1.0	0.3
Time (ms)	NA	12.4
Peak Nij (Ntf)	1.0	0.2
Time (ms)	NA	29.2
Peak Nij (Nce)	1.0	0.0
Time (ms)	NA	182.2
Peak Nij (Ncf)	1.0	0.1
Time (ms)	NA	123.0
Neck Tension	2070 N	846
Neck Compression	2520 N	60
Chest g	60 g	18
Chest Displacement	52 mm	12
Left Femur	6805 N	7
Right Femur	6805 N	31

Second stage fire time of 120 ms; Injuries calculated on 0 ms to 245 ms



### SECTION 3...(continued)

#### INJURY RESULT SUMMARY FOR FMVSS 208 TESTS

Test Vehicle: 2005 Hyundai Elantra 4 Door NHTSA No.: C50501  
 Test Program: FMVSS 208 Compliance Test Date: 4/18/06

#### 40 kmph Frontal Crash

Impact Angle: Zero degrees

Belted Dummies:      Yes   X   No  
 Speed Range:      0 to 40 kmph   X   32 to 40 kmph  
     0 to 48 kmph      0 to 56 kmph

Test Speed: 39.6 kmph Test Weight: 1467.4 kg

Driver Dummy:   X   5<sup>th</sup> female      50<sup>th</sup> male  
 Passenger Dummy:   X   5<sup>th</sup> female      50<sup>th</sup> male

#### 5<sup>th</sup> Percentile Female Frontal Crash Test Vehicles certified to S16.1(a), S16.1(b), or S18.1

Injury Criteria	Max. Allowable Injury Assessment Values	Driver	Passenger
HIC15	700	147	445
N <sub>te</sub>	1.0	0.3	0.5
N <sub>tf</sub>	1.0	0.2	0.3
N <sub>ce</sub>	1.0	0.0	0.1
N <sub>cf</sub>	1.0	0.1	0.6
Neck Tension	2620 N	710	563
Neck Compression	2520 N	90	449
Chest g	60 g	47	43
Chest Displacement	52 mm	23	3
Left Femur	6805 N	3917	4681
Right Femur	6805 N	2901	3001

## SECTION 4

### DISCUSSION OF TESTS

Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance

NHTSA No.: C50501  
Test Date: 11/12/04-4/18/06

The original sequence of suppression tests were conducted beginning on February 4, 2005. Hyundai certified to the suppression option using dummies, therefore, these tests were conducted using dummies. There were no apparent issues.

Because of consumer complaints about the suppression system, supplemental suppression tests were conducted on April 11, 2005 using 5<sup>th</sup> female dummies and adult female human subjects as shown in the Table below:

1-12-month-old suppression with Britax Roundabout 161 child restraint w/ human 5th female reactivation in the full rear seat track position
1-3-year-old suppression with Century Next Step booster seat w/ dummy 5 <sup>th</sup> female reactivation in the mid track seat position
1-6-year-old suppression with Century Next Step booster seat w/ human 5th female reactivation in the full forward seat track position
1-6-year-old suppression Cosco High Back Booster seat w/ 120 to 130 lb human reactivation in the full forward seat track position

The supplemental suppression testing exhibited a passenger occupant classification lock. Each time an active passenger air bag classification was made the suppression system locked that classification until the key was cycled with the passenger seat empty. Hyundai recall 073 was issued to correct this situation.

Since the last tests were performed on April 11, 2005, the following suppression tests were conducted on January 12, 2006 to verify the current status of the passenger occupant classification system before the vehicle was serviced for NHTSA Recall 05V395000; Hyundai Recall 073. This test was conducted using dummies and adult female human subjects as shown in the Table below:

1-12-month-old suppression with Britax Roundabout 161 child restraint w/ human 5th female reactivation in the full rear seat track position
1-3-year-old suppression with Century Next Step booster seat w/ dummy 5th female reactivation in the mid track seat position
1-6-year-old suppression with Century Next Step booster seat w/ human 5th female reactivation in the full forward seat track position
1-6-year-old suppression Cosco High Back Booster seat w/ 120 to 130 lb human reactivation in the full forward seat track position

Following service for Hyundai Recall 073, the same suppression tests as performed on February 4, 2005, were conducted on January 23 - 26, 2006. In addition, three reactivation tests were conducted using adult female human subjects. The results of these tests showed that the air bag was suppressed and activated when required (even though a human female of 56.7 kg did not activate the air bag when the seat was in the full forward position) and that the recall remedy eliminated the occupant classification lock.

The vehicle was then sent to a Hyundai dealer for Technical Service Bulletin (TSB) passenger Occupant Classification System software change which Hyundai implemented to accommodate certain smaller stature adult riders that were suppressing the passenger air bag (Service Bulletin Number 0590003) and driver air bag customer service action software change implemented based on an Insurance Institute for Highway Safety crash test (Service Bulletin Number 0501002). Following these services, the same suppression tests as performed on February 4, 2005 were conducted on March 6 - 8, 2006. Some reactivation tests were conducted with human subjects as shown in the Table below.

1-12-month-old suppression with Century Encore and Evenflo Medallion child restraint w/ human 5th female reactivation
3-year-old suppression with Century Next Step, Cosco High Back Booster, Britax Roundabout 161, Century Encore, Evenflo Medallion, and after positions not requiring child restraints w/ human 5th female reactivation
6-year-old suppression with Century Next Step, Cosco High Back Booster and Evenflo Right Fit 245 w/ human 5th female reactivation

There were no apparent issues. In addition the system successfully classified four representative 5<sup>th</sup> percentile human females. These photos are shown in the suppression appendix.

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

The Cosco Dream Ride Car Bed was tested for suppression in the Middle and Rearward Seat Slide position. The CRS would not fit in the Forward Seat Slide position due to interference with the transmission shifter. At Middle Seat Slide position its orientation was lateral with the Newborn dummy's head placed to the left hand side of the vehicle. At Rearward Seat Slide position its orientation was 30° with the Newborn dummy's head placed to the left hand side of the vehicle. This was done due to interference with the center console.

The front passenger sensing system was developed to recognize the pattern of a human for passenger air bag deployment during a frontal impact crash. However, a dummy is used in the FMVSS 208 crash test. Per FMVSS 208, Section 4.12, the system was programmed to duplicate the signal of a 5<sup>th</sup> percentile human subject sitting in the seat.

Due to the length of time needed for testing, the tests were conducted in accordance with OVSC Laboratory Test Procedure No. TP208-12 dated January 14, 2003 and TP208-13 dated July 27, 2005 as appropriate for their test date.

**SECTION 5**  
**TEST DATA SHEETS**

Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance

NHTSA No.: C50501  
Test Dates: 11/12/04-4/18/06

# DATA SHEET 1

## COTR VEHICLE WORK ORDER

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance

NHTSA No.: C50501  
 Test Dates: 11/12/04-4/18/06

COTR Signature: Charles R. Case

Test to be performed for this vehicle are checked below:

- |                                     |   |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | 1. Rear Outboard Seating Position Seat Belts (S4.1.2(b)) & (S4.2.4)   |
| <input checked="" type="checkbox"/> | 2. Air Bag Labels (S4.5.1)  |
| <input checked="" type="checkbox"/> | 3. Readiness Indicator (S4.5.2)   |
| <input checked="" type="checkbox"/> | 4. Passenger Air Bag Manual Cut-off Device (S4.5.4)   |
| <input checked="" type="checkbox"/> | 5. Lap Belt Lockability (S7.1.1.5)  |
| <input checked="" type="checkbox"/> | 6. Seat Belt Warning System (S7.3)  |
| <input checked="" type="checkbox"/> | 7. Seat Belt Contact Force (S7.4.4)   |
| <input checked="" type="checkbox"/> | 8. Seat Belt Latch Plate Access (S7.4.4)  |
| <input checked="" type="checkbox"/> | 9. Seat Belt Retraction (S7.4.5)  |
| <input checked="" type="checkbox"/> | 10. Seat Belt Guides and Hardware (S7.4.6)  |
| <input checked="" type="checkbox"/> | 11. Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart R) using the following indicated child restraints. |

### Section B

<input checked="" type="checkbox"/>	Britax Handle with Care 191	<input checked="" type="checkbox"/>	Full Rearward	<input checked="" type="checkbox"/>	Mid Position	<input checked="" type="checkbox"/>	Full Forward
	Century Assura 4553		Full Rearward		Mid Position		Full Forward
	Century Avanta SE 41530		Full Rearward		Mid Position		Full Forward
	Century Smart Fit 4543		Full Rearward		Mid Position		Full Forward
	Cosco Arriva 02727		Full Rearward		Mid Position		Full Forward
	Cosco Opus 35 02603		Full Rearward		Mid Position		Full Forward
	Evenflo Discovery Adjust Right 212		Full Rearward		Mid Position		Full Forward
<input checked="" type="checkbox"/>	Evenflo First Choice 204	<input checked="" type="checkbox"/>	Full Rearward	<input checked="" type="checkbox"/>	Mid Position	<input checked="" type="checkbox"/>	Full Forward
	Evenflo On My Way Position Right V 282		Full Rearward		Mid Position		Full Forward
<input checked="" type="checkbox"/>	Graco Infant 8457	<input checked="" type="checkbox"/>	Full Rearward	<input checked="" type="checkbox"/>	Mid Position	<input checked="" type="checkbox"/>	Full Forward

### Section C

<input checked="" type="checkbox"/>	Britax Roundabout 161	<input checked="" type="checkbox"/>	Full Rearward	<input checked="" type="checkbox"/>	Mid Position	<input checked="" type="checkbox"/>	Full Forward
<input checked="" type="checkbox"/>	Century Encore 4612	<input checked="" type="checkbox"/>	Full Rearward	<input checked="" type="checkbox"/>	Mid Position	<input checked="" type="checkbox"/>	Full Forward
	Century STE 1000 4416		Full Rearward		Mid Position		Full Forward
	Cosco Olympian 02803		Full Rearward		Mid Position		Full Forward
	Cosco Touriva 02519		Full Rearward		Mid Position		Full Forward
	Evenflo Horizon V 425		Full Rearward		Mid Position		Full Forward
<input checked="" type="checkbox"/>	Evenflo Medallion 254	<input checked="" type="checkbox"/>	Full Rearward	<input checked="" type="checkbox"/>	Mid Position	<input checked="" type="checkbox"/>	Full Forward
<input checked="" type="checkbox"/>	12. Suppression tests with newborn infant (Part 572, Subpart K) using the following indicated child restraints.						

### Section A

<input checked="" type="checkbox"/>	Cosco Dream Ride 02-719	<input checked="" type="checkbox"/>	Full Rearward	<input checked="" type="checkbox"/>	Mid Position	<input checked="" type="checkbox"/>	Full Forward
<input checked="" type="checkbox"/>	13. Suppression tests with 3-year-old dummy (Part 572, Subpart P) using the following indicated child restraints where a child restraint is required.						

### Section C

<b>X</b>	Britax Roundabout 161	<b>X</b>	Full Rearward	<b>X</b>	Mid Position	<b>X</b>	Full Forward
<b>X</b>	Century Encore 4612	<b>X</b>	Full Rearward	<b>X</b>	Mid Position	<b>X</b>	Full Forward
	Century STE 1000 4416		Full Rearward		Mid Position		Full Forward
	Cosco Olympian 02803		Full Rearward		Mid Position		Full Forward
	Cosco Touriva 02519		Full Rearward		Mid Position		Full Forward
	Evenflo Horizon V 425		Full Rearward		Mid Position		Full Forward
<b>X</b>	Evenflo Medallion 254	<b>X</b>	Full Rearward	<b>X</b>	Mid Position	<b>X</b>	Full Forward

### Section D

	Britax Roadster 9004		Full Rearward		Mid Position		Full Forward
<b>X</b>	Century Next Step 4920	<b>X</b>	Full Rearward	<b>X</b>	Mid Position	<b>X</b>	Full Forward
<b>X</b>	Cosco High Back Booster 02-442	<b>X</b>	Full Rearward	<b>X</b>	Mid Position	<b>X</b>	Full Forward
	Evenflo Right Fit 245		Full Rearward		Mid Position		Full Forward

- 14.** Suppression tests with representative 3-year-old child using the following indicated child restraints where a child restraint is required. (Appendix H, Data Sheet 16H and 17H)

### Section C

	Britax Roundabout 161		Full Rearward		Mid Position		Full Forward
	Century Encore 4612		Full Rearward		Mid Position		Full Forward
	Century STE 1000 4416		Full Rearward		Mid Position		Full Forward
	Cosco Olympian 02803		Full Rearward		Mid Position		Full Forward
	Cosco Touriva 02519		Full Rearward		Mid Position		Full Forward
	Evenflo Horizon V 425		Full Rearward		Mid Position		Full Forward
	Evenflo Medallion 254		Full Rearward		Mid Position		Full Forward

### Section D

	Britax Roadster 9004		Full Rearward		Mid Position		Full Forward
	Century Next Step 4920		Full Rearward		Mid Position		Full Forward
	Cosco High Back Booster 02-442		Full Rearward		Mid Position		Full Forward
	Evenflo Right Fit 245		Full Rearward		Mid Position		Full Forward

- X** **15.** Suppression tests with 3-year-old dummy (Part 572, Subpart P) in the following Forward, Middle, and Rearward seat track positions

<b>X</b>	Sitting on seat with back against seat back (S22.2.2.1)
<b>X</b>	Sitting on seat with back against reclined seat back (S22.2.2.2)
<b>X</b>	Sitting on seat with back not against seat back (S22.2.2.3)
<b>X</b>	Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
<b>X</b>	Standing on seat, facing forward (S22.2.2.5)
<b>X</b>	Kneeling on seat facing forward (S22.2.2.6)
<b>X</b>	Kneeling on seat facing rearward (S22.2.2.7)
	Lying on seat (S22.2.2.8)

- 16.** Suppression tests with representative 3-year-old child in the following positions

	Sitting on seat with back against seat back (S22.2.2.1)
	Sitting on seat with back against reclined seat back (S22.2.2.2)
	Sitting on seat with back not against seat back (S22.2.2.3)
	Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
	Standing on seat, facing forward (S22.2.2.5)
	Kneeling on seat facing forward (S22.2.2.6)
	Kneeling on seat facing rearward (S22.2.2.7)
	Lying on seat (S22.2.2.8)

- X** **17.** Suppression tests with 6-year-old dummy (Part 572, Subpart N) using the following indicated child restraints where a child restraint is required.

#### Section D

	Britax Roadster 9004		Full Rearward		Mid Position		Full Forward
X	Century Next Step 4920	X	Full Rearward	X	Mid Position	X	Full Forward
X	Cosco High Back Booster 02-442	X	Full Rearward	X	Mid Position	X	Full Forward
X	Evenflo Right Fit 245	X	Full Rearward	X	Mid Position	X	Full Forward
	18. Suppression tests with representative 6-year-old child using the following indicated child restraints where a child restraint is required.						

#### Section D

	Britax Roadster 9004		Full Rearward		Mid Position		Full Forward
	Century Next Step 4920		Full Rearward		Mid Position		Full Forward
	Cosco High Back Booster 02-442		Full Rearward		Mid Position		Full Forward
	Evenflo Right Fit 245		Full Rearward		Mid Position		Full Forward
X	19. Suppression tests with 6-year-old dummy (Part 572, Subpart N) in the following Forward, Middle, and Rearward seat track positions						
	X Sitting on seat with back against seat back (S22.2.2.1)						
	X Sitting on seat with back against reclined seat back (S22.2.2.2)						
	X Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)						
	X Sitting back in the seat and leaning on the right front passenger door (S24.2.3)						
	20. Suppression tests with representative 6-year-old child in the following positions						
	Sitting on seat with back against seat back (S22.2.2.1)						
	Sitting on seat with back against reclined seat back (S22.2.2.2)						
	Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)						
	Sitting back in the seat and leaning on the right front passenger door (S24.2.3)						
X	21. Test of Reactivation of the Passenger Air Bag System with an Unbelted 5 <sup>th</sup> percentile female dummy (S20.3, 22.3, S24.3). Perform this test after the following suppression tests: After each restraint.						
	22. Test of Reactivation of the passenger air bag system with a representative 5 <sup>th</sup> percentile female (S20.3, 22.3, S24.3). Perform this test after the following suppression tests:						
	23. Low risk deployment test with 12-month-old dummy (Part 572, Subpart R) using the following indicated child restraints.						

#### Section B

	Britax Handle with Care 191		Full Rearward		Mid Position		Full Forward
	Century Assura 4553		Full Rearward		Mid Position		Full Forward
	Century Avanta SE 41530		Full Rearward		Mid Position		Full Forward
	Century Smart Fit 4543		Full Rearward		Mid Position		Full Forward
	Cosco Arriva 02727		Full Rearward		Mid Position		Full Forward
	Cosco Opus 35 02603		Full Rearward		Mid Position		Full Forward
	Evenflo Discovery Adjust Right 212		Full Rearward		Mid Position		Full Forward
	Evenflo First Choice 204		Full Rearward		Mid Position		Full Forward
	Evenflo On My Way Position Right V 282		Full Rearward		Mid Position		Full Forward
	Graco Infant 8457		Full Rearward		Mid Position		Full Forward

## Section C

		Britax Roundabout 161		Full Rearward		Mid Position		Full Forward
		Century Encore 4612		Full Rearward		Mid Position		Full Forward
		Century STE 1000 4416		Full Rearward		Mid Position		Full Forward
		Cosco Olympian 02803		Full Rearward		Mid Position		Full Forward
		Cosco Touriva 02519		Full Rearward		Mid Position		Full Forward
		Evenflo Horizon V 425		Full Rearward		Mid Position		Full Forward
		Evenflo Medallion 254		Full Rearward		Mid Position		Full Forward
	24.	Low risk deployment test with 3-year-old dummy (Part 572, Subpart P) in the following positions						
		Position 1						
		Position 2						
	25.	Low risk deployment test with 6-year-old dummy (Part 572, Subpart N) in the following positions						
		Position 1						
		Position 2						
X	26.	Low risk deployment test with 5 <sup>th</sup> percentile female dummy (Part 572, Subpart O) in the following positions						
		X Position 1						
		X Position 2						
X	27.	Impact Tests						
		Frontal Oblique – Test Speed:						
		Belted 50 <sup>th</sup> male dummy driver and passenger (0 to 48 kmph) (S5.1.1(a))						
		Unbelted 50 <sup>th</sup> male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a)(1))						
		Unbelted 50 <sup>th</sup> male dummy driver and passenger (32 to 40 kmph) (S5.1.2(a) (1) or S5.1.2(b))						
		X Frontal 0° - Test Speed: 39.6 kmph						
		Belted 50 <sup>th</sup> male dummy driver (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))						
		Belted 50 <sup>th</sup> male dummy passenger (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))						
		Belted 5 <sup>th</sup> female dummy driver (0 to 48 kmph) (S16.1(a))						
		Belted 5 <sup>th</sup> female dummy passenger (0 to 48 kmph) (S16.1(a))						
		Belted 50 <sup>th</sup> male dummy driver and passenger (0 to 56 kmph) (S5.1.1.(b)(2))						
		Unbelted 50 <sup>th</sup> male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a) (1))						
		Unbelted 50 <sup>th</sup> male dummy driver (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))						
		Unbelted 50 <sup>th</sup> male dummy passenger (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))						
		X Unbelted 5 <sup>th</sup> female dummy driver (32 to 40 kmph) (S16.1(b))						
		X Unbelted 5 <sup>th</sup> female dummy passenger (32 to 40 kmph) (S16.1(b))						
		40% Offset 0° Belted 5 <sup>th</sup> male dummy driver and passenger (0 to 40 kmph) (S18.1) – Test Speed:						
	28.	Sled Test: Unbelted 50 <sup>th</sup> male dummy driver and passenger (S13)						
	29.	FMVSS 204 Indicant Test						
X	30.	FMVSS 212 Indicant Test						
X	31.	FMVSS 219 Indicant Test						
X	32.	FMVSS 301 Indicant Frontal Test						



**DATA SHEET 2**  
**REPORT OF VEHICLE CONDITION**

Test Vehicle: 2005 Hyundai Elantra 4 Door NHTSA No.: C50501  
Test Program: FMVSS 208 Compliance Test Dates: 11/12/04-4/18/06

CONTRACT NO. DTNH22- 03-D-11002 Date: 4/26/06  
FROM (Lab and rep name): MGA Research Corporation  
TO: NHTSA, OVSC (NVS-220)

PURPOSE: ( ) Initial Receipt ( ) Received via Transfer (X) Present vehicle condition

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2005 Hyundai Elantra 4 Door  
MANUFACTURE DATE: 6/16/04  
NHTSA NO. C50501 GVWR: 1760 kg (3880 lbs)  
BODY COLOR: Black GAWR (Fr): 960 kg (2116 lbs)  
VIN: KMHDN46DX5U934912 GAWR (Rr): 840 kg (1852 lbs)

ODOMETER READINGS: ARRIVAL (miles): 75 DATE: 2/19/04  
COMPLETION (miles): 84 DATE: 4/18/06  
PURCHASE PRICE: (\$) 13,912.00  
DEALER'S NAME: Arrow Hyundai 10611 W Arthur Ave, West Allis WI 53227

- A. All options listed on window sticker are present on the test vehicle:  
X Yes \_\_\_ No
- B. Tires and wheel rims are new and the same as listed: X Yes \_\_\_ No
- C. There are no dents or other interior or exterior flaws: X Yes \_\_\_ No
- D. The vehicle has been properly prepared and is in running condition:  
X Yes \_\_\_ No
- E. Keyless remote is available and working: X Yes \_\_\_ No
- F. The glove box contains an owner's manual, warranty document, consumer information, and extra set of keys: X Yes \_\_\_ No
- G. Proper fuel filler cap is supplied on the test vehicle: X Yes \_\_\_ No
- H. Using permanent marker, identify vehicle with NHTSA number and FMVSS test type(s) on roof line above driver door or for school buses, place a placard with NHTSA number inside the windshield and to the exterior front and rear side of bus:  
X Yes \_\_\_ No
- I. Place vehicle in storage area: X Yes \_\_\_ No
- J. Inspect the vehicle's interior and exterior, including all windows, seats, doors, etc. to confirm that each system is complete and functional per the manufacturer's specifications. Any damage, misadjustment, or other unusual condition that could influence the test program or test results shall be recorded. Report any abnormal condition to the NHTSA COTR before beginning any test:  
X Vehicle OK \_\_\_ Conditions reported below

## REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

LIST OF FMVSS TESTS PERFORMED BY THIS LAB: FMVSS 208, 212, 219, 301

VEHICLE: 2005 Hyundai Elantra 4 Door NHTSA NO. C50501

REMARKS:

Equipment that is no longer on the test vehicle as noted on previous page:

Rear tail lights, tool & jack, trunk interior, spare tire

Explanation for equipment removal:

Components removed for instrumentation installation and to meet target weight.

Test Vehicle Condition:

25 mph frontal impact damage- front suspension & structure damaged, hood & front quarter panels damaged, radiator damaged, air bags & pretensioners deployed, Stoddard in fuel system

RECORDED BY: Jeff Lewandowski DATE: 4/26/06

APPROVED BY: David Winkelbauer DATE: 4/26/06

#####

### RELEASE OF TEST VEHICLE

The vehicle described above is released from MGA to be delivered to:

Date: Time: Odometer:

Lab Rep's Signature:

Title:

Carrier/Customer Rep:

Date:

### DATA SHEET 3

#### CERTIFICATION LABEL AND TIRE PLACARD INFORMATION

Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance  
Test Technician: Wayne Dahlke

NHTSA No.: C50501  
Test Date: 4/18/06

Certification Label	
Manufacturer:	Hyundai Motor Company
Date of Manufacture:	6/16/04
VIN:	KMHDN46DX5U934912
Vehicle Certified As (Pass. Car/MPV/Truck/Bus):	Passenger Car
Front Axle GVWR:	960 kg (2116 lbs)
Rear Axle GVWR:	840 kg (1852 lbs)
Total GVWR:	1760 kg (3880 lbs)

Tire Placard	
Not applicable, vehicle is not a passenger car and does not have a tire placard.	Passenger Car
This is not a passenger car, but all or part of this information is still contained on a vehicle label and is reported here.	Passenger Car
Vehicle Capacity Weight:	385 kg (850 lbs)
Designated Seating Capacity Front:	2
Designated Seating Capacity Rear:	3
Total Designated Seating Capacity:	5
Recommended Cold Tire Inflation Pressure Front:	210 kpa (30 psi)
Recommended Cold Tire Inflation Pressure Rear:	210 kpa (30 psi)
Recommended Tire Size:	P195/60R15

Signature: Wayne Dahlke

Date: 4/18/06

#### DATA SHEET 4

##### REAR OUTBOARD SEATING POSITION SEAT BELTS

Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance  
Test Technician: Wayne Dahlke

NHTSA No.: C50501  
Test Date: 11/12/04

	Yes	No
Do all rear outboard seating positions have Type 2 seat belts?	<b>X</b>	

If NO, describe the seat belt installed, the seat location, and any other information about the seat that would explain why a Type 2 seat belt was not installed.

REMARKS:

Signature: Wayne Dahlke

Date: 11/12/04

# **DATA SHEET 5** **AIR BAG LABELS (S4.5.1)**

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 11/12/04

- |                                     |     |  |
|-------------------------------------|-----|--|
| <input checked="" type="checkbox"/> | 1.  | Air bag maintenance label and owner's manual instructions: (S4.5.1(a))   |
| <input checked="" type="checkbox"/> | 1.1 | Does the manufacturer recommend periodic maintenance or replacement of the air bag?  |
|                                     |     | <input type="checkbox"/> Yes, go to 1.2  |
|                                     |     | <input checked="" type="checkbox"/> No – go to 2   |
| <input type="checkbox"/>            | 1.2 | Does the vehicle have a label specifying air bag maintenance or replacement?   |
|                                     |     | <input type="checkbox"/> Yes – Pass  |
|                                     |     | <input type="checkbox"/> No – Fail   |
| <input type="checkbox"/>            | 1.3 | Does the label contain one of the following?   |
|                                     |     | <input type="checkbox"/> Yes – Pass  |
|                                     |     | <input type="checkbox"/> No – Fail   |
|                                     |     | Check applicable schedule:   |
|                                     |     | ___ Schedule on label specifies month and year (Record date_____)  |
|                                     |     | ___ Schedule on label specified vehicle mileage (Record mileage_____)  |
|                                     |     | ___ Schedule on label specifies interval measured from date on certification label (Record interval_____)  |
| <input type="checkbox"/>            | 1.4 | Is the label permanently affixed within the passenger compartment such that it cannot be removed without destroying or defacing the label or the sunvisor? |
|                                     |     | <input type="checkbox"/> Yes – Pass  |
|                                     |     | <input type="checkbox"/> No – Fail   |
| <input type="checkbox"/>            | 1.5 | Is the label lettered in English?  |
|                                     |     | <input type="checkbox"/> Yes – Pass  |
|                                     |     | <input type="checkbox"/> No – Fail   |
| <input type="checkbox"/>            | 1.6 | Is the label in block capitals and numerals?   |
|                                     |     | <input type="checkbox"/> Yes – Pass  |
|                                     |     | <input type="checkbox"/> No – Fail   |
| <input type="checkbox"/>            | 1.7 | Are the letters and numerals at least 3/32 inches high?  |
|                                     |     | <input type="checkbox"/> Yes – Pass  |
|                                     |     | <input type="checkbox"/> No – Fail   |
| <input type="checkbox"/>            | 1.8 | Does the owner's manual set forth the recommended schedule for maintenance or replacement?   |
| <input checked="" type="checkbox"/> | 2.  | Does the owner's manual: (S4.5.1(f))   |
| <input checked="" type="checkbox"/> | 2.1 | Include a description of the vehicle's air bag system in an easily understandable format?  |
|                                     |     | <input checked="" type="checkbox"/> Yes – Pass   |
|                                     |     | <input type="checkbox"/> No – Fail   |
| <input checked="" type="checkbox"/> | 2.2 | Include a statement that the vehicle is equipped with an air bag and a lap/shoulder belt at the front outboard seating position?                           |
|                                     |     | <input checked="" type="checkbox"/> Yes – Pass   |
|                                     |     | <input type="checkbox"/> No – Fail   |

- ☒ 2.3 Include a statement that the air bag is a supplement restraint at the front outboard seating position?
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 2.4 Emphasize that all occupants, including the driver, should always wear their seat belts whether or not an air bag is also provided at their seating positions to minimize the risk of severe injury or death in the event of a crash?
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 2.5 Provide any necessary precautions regarding the proper positioning of occupants, including children, at seating positions equipped with air bags to ensure maximum safety protection for those occupants?
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 2.6 Explain that no objects should be placed over or near the air bag on the steering wheel or on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate?
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 2.7 Is the vehicle certified to meet the requirements of S14.5, S15, S17, S19, S21, S23, and S25? (Obtain answer from COTR) (S4.5.1(f)(2))
- ☒ Yes – (Go to 2.7.1)  
☐ No – (Go to 3.)
- ☒ 2.7.1 Explain the proper functioning of the advanced air bag system? (S4.5.1(f)(2))
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 2.7.2 Provide a summary of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2))
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 2.7.3 Present and explain the main components of the advanced passenger air bag system? (S4.5.1(f)(2)(i))
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 2.7.4 Explain how the components function together as part of the advanced passenger air bag system? (S4.5.1(f)(2)(ii))
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 2.7.5 Contain the basic requirements for proper operation, including an explanation of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2)(iii))
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 2.7.6 Is the vehicle certified to the requirements of S19.2, S21.2, or 23.2 (automatic suppression)?
- ☒ Yes, continue with 2.7.6  
☐ No, go to 2.7.7

<input checked="" type="checkbox"/>	2.7.6.1	Contain a complete description of the passenger air bag suppression system installed in the vehicle, including a discussion of any suppression zone? (S4.5.1(f)(2)(iv))
	<input checked="" type="checkbox"/>	Yes – Pass
	<input type="checkbox"/>	No – Fail
<input checked="" type="checkbox"/>	2.7.6.2	Discuss the telltale light, specifying its location in the vehicle and explaining when the light is illuminated?
	<input checked="" type="checkbox"/>	Yes – Pass
	<input type="checkbox"/>	No – Fail
<input checked="" type="checkbox"/>	2.7.7	Explain the interaction of the advanced passenger air bag system with other vehicle components, such as seat belts, seats or other components? (S4.5.1(f)(2)(v))
	<input checked="" type="checkbox"/>	Yes – Pass
	<input type="checkbox"/>	No – Fail
<input checked="" type="checkbox"/>	2.7.8	Summarize the expected outcomes when child restraint systems, children and small teenagers or adults are both properly and improperly positioned in the passenger seat, including cautionary advice against improper placement of child restraint systems? (S4.5.1(f)(2)(vi))
	<input checked="" type="checkbox"/>	Yes – Pass
	<input type="checkbox"/>	No – Fail
<input checked="" type="checkbox"/>	2.7.9	Provide information on how to contact the vehicle manufacturer concerning modifications for persons with disabilities that may affect the advanced air bag system? (S4.5.1(f)(2)(vii))
	<input checked="" type="checkbox"/>	Yes – Pass
	<input type="checkbox"/>	No – Fail
<input checked="" type="checkbox"/>	3.	Sun Visor Air Bag Warning Label (S4.5.1(b)) Check only one of the following:
	<input type="checkbox"/>	The vehicle is not certified to meet the requirements of S19, S21, and S23 (Obtain answer from COTR) (S4.5.1(b)(1)) Go to 3.1 and skip 3.2 and 3.3
	<input type="checkbox"/>	The vehicle is certified to meet the requirements of S19, S21, and S23 before 9/1/03. (Obtain answer from COTR) (S4.5.1(b)(2)) Go to 3.2 and skip 3.1 and 3.3
	<input checked="" type="checkbox"/>	The vehicle is certified to meet the requirements of S19, S21, and S23 on 9/1/03 or later. (Obtain answer from COTR) (S4.5.1(b)(3)) Go to 3.3 and skip 3.1 and 3.2
<input type="checkbox"/>	3.1	Vehicles not certified to meet the requirements of S19, S21, and S23.
<input type="checkbox"/>	3.1.1	Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing it? (S4.5.1(b)(1))
	<input type="checkbox"/>	Driver Side, Yes – Pass
	<input type="checkbox"/>	Driver Side, No – Fail
	<input type="checkbox"/>	Passenger Side, Yes – Pass
	<input type="checkbox"/>	Passenger Side, No – Fail



3.1.2

Does the label conform in content to the label shown in either Figure 6A or 6B (Figure 6b is for vehicles with passenger air bag on-off switches), as appropriate, at each front outboard seating position? (S4.5.1(b)(1)) (Vehicles without back seats may omit the statement: "The back seat is the safest place for children." (S4.5.1(b)(1)(iv))



Figure 6a. Sun Visor Label Visible When Visor is in Down Position.



Figure 6b. Sun Visor Label Visible When Visor is in Down Position.



Driver Side, Yes – Pass



Driver Side, No – Fail



Passenger Side, Yes – Pass



Passenger Side, No – Fail



3.1.3

Is the label heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1(b)(1)(i))



Driver Side, Yes – Pass



Driver Side, No – Fail



Passenger Side, Yes – Pass



Passenger Side, No – Fail



3.1.4

Is the message area white with black text? (S4.5.1(b)(1)(ii))



Driver Side, Yes – Pass



Driver Side, No – Fail



Passenger Side, Yes – Pass



Passenger Side, No – Fail



- ☐ 3.1.5 Is the message area at least 30 cm<sup>2</sup>? (S4.5.1(b)(1)(ii))  
 Driver Side: Length \_\_\_\_cm, Width \_\_\_\_cm  
 Passenger Side: Length \_\_\_\_cm, Width \_\_\_\_cm  
 Actual message area \_\_\_\_ cm<sup>2</sup>  
☐ Driver Side, Yes – Pass  
☐ Driver Side, No – Fail  
☐ Passenger Side, Yes – Pass  
☐ Passenger Side, No – Fail
- ☐ 3.1.6 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(b)(2)(iii))  
☐ Driver Side, Yes – Pass  
☐ Driver Side, No – Fail  
☐ Passenger Side, Yes – Pass  
☐ Passenger Side, No – Fail
- ☐ 3.1.7 Is the pictogram at least 30 mm in diameter? (S4.5.1(b)(2)(iii))  
 Actual diameter \_\_\_\_ mm  
☐ Driver Side, Yes – Pass  
☐ Driver Side, No – Fail  
☐ Passenger Side, Yes – Pass  
☐ Passenger Side, No – Fail
- ☐ 3.2 Vehicles certified to meet the requirements of S19, S21, and S23 before 9/1/03.
- ☐ 3.2.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(b)(2))  
☐ Driver Side, Yes – Pass  
☐ Driver Side, No – Fail  
☐ Passenger Side, Yes – Pass  
☐ Passenger Side, No – Fail



3.2.2

Does the label conform in content to the label shown in Figure 8 or 11 at each front outboard seating position? (S4.5.1(b)(2)) (Vehicles without back seats may omit the statement: "The back seat is the safest place for children." (S4.5.1(b)(2)(iv)) Vehicles without back seats or the back seat is too small to accommodate a rear-facing child restraint may omit the statement "Never put a rear-facing child seat in the front."(S4.5.1(b)(2)(v))

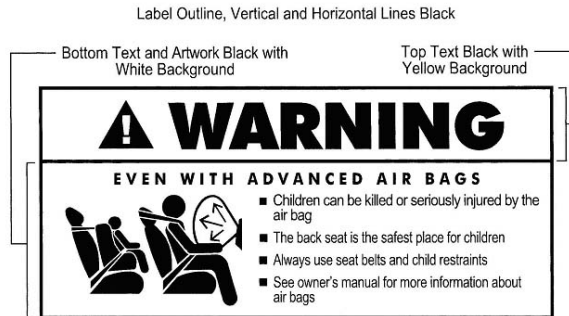


Figure 8. Sun Visor Label Visible when Visor is in Down Position.



Figure 11. Sun Visor Label Visible when Visor is in Down Position.



- Driver Side, Yes – Pass
- Driver Side, No – Fail
- Passenger Side, Yes – Pass
- Passenger Side, No – Fail



3.2.3

Is the label heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1(b)(2)(i))



- Driver Side, Yes – Pass
- Driver Side, No – Fail
- Passenger Side, Yes – Pass
- Passenger Side, No – Fail



3.2.4

Is the message area white with black text? (S4.5.1(b)(2)(ii))



- Driver Side, Yes – Pass
- Driver Side, No – Fail
- Passenger Side, Yes – Pass
- Passenger Side, No – Fail

<input type="checkbox"/>	3.2.5	Is the message area at least 30 cm <sup>2</sup> ? (S4.5.1(b)(2)(ii)) Driver Side: Length_____, Width_____ Passenger Side: Length_____, Width_____ Actual message area _____ cm <sup>2</sup>
		<input type="checkbox"/> Driver Side, Yes – Pass
		<input type="checkbox"/> Driver Side, No – Fail
		<input type="checkbox"/> Passenger Side, Yes – Pass
		<input type="checkbox"/> Passenger Side, No – Fail
<input type="checkbox"/>	3.2.6	Is the pictogram black on a white background? (S4.5.1(b)(2)(iii))
		<input type="checkbox"/> Driver Side, Yes – Pass
		<input type="checkbox"/> Driver Side, No – Fail
		<input type="checkbox"/> Passenger Side, Yes – Pass
		<input type="checkbox"/> Passenger Side, No – Fail
<input type="checkbox"/>	3.2.7	Is the pictogram at least 30 mm (1.2 inches) in length? (S4.5.1(b)(2)(iii)) Driver Side: Length_____ Passenger Side: Length_____
		<input type="checkbox"/> Driver Side, Yes – Pass
		<input type="checkbox"/> Driver Side, No – Fail
		<input type="checkbox"/> Passenger Side, Yes – Pass
		<input type="checkbox"/> Passenger Side, No – Fail
<input checked="" type="checkbox"/>	3.3	Vehicles certified to meet the requirements of S19, S21, and S23 on 9/1/03 and later. (S4.5.1(b)(3))
<input checked="" type="checkbox"/>	3.3.1	Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(b)(3))
		<input checked="" type="checkbox"/> Driver Side, Yes – Pass
		<input type="checkbox"/> Driver Side, No – Fail
		<input checked="" type="checkbox"/> Passenger Side, Yes – Pass
		<input type="checkbox"/> Passenger Side, No – Fail

**X**

3.3.2

Does the label conform in content to the label shown in Figure 11 at each front outboard seating position? (S4.5.1(b)(2)) (Vehicles without back seats may omit the statement: "The back seat is the safest place for children." (S4.5.1(b)(3)(iv)) Vehicles without back seats or the back seat is too small to accommodate a rear-facing child restraint may omit the statement "Never put a rear-facing child seat in the front." (S4.5.1(b)(3)(v))



Figure 11. Sun Visor Label Visible when Visor is in Down Position.

**X**

Driver Side, Yes – Pass

Driver Side, No – Fail

**X**

Passenger Side, Yes – Pass

Passenger Side, No – Fail

**X**

3.3.3

Is the label heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1(b)(3)(i))

**X**

Driver Side, Yes – Pass

Driver Side, No – Fail

**X**

Passenger Side, Yes – Pass

Passenger Side, No – Fail

**X**

3.3.4

Is the message area white with black text? (S4.5.1(b)(3)(ii))

**X**

Driver Side, Yes – Pass

Driver Side, No – Fail

**X**

Passenger Side, Yes – Pass

Passenger Side, No – Fail

**X**

3.3.5

Is the message area at least 30 cm<sup>2</sup>? (S4.5.1(b)(3)(ii))

Driver Side: Length 12.4 , Width 4.1

Passenger Side: Length 12.4 , Width 4.1

Driver Actual message area 50.84 cm<sup>2</sup>

Passenger Actual message area 50.84 cm<sup>2</sup>

**X**

Driver Side, Yes – Pass

Driver Side, No – Fail

**X**

Passenger Side, Yes – Pass

Passenger Side, No – Fail

<input checked="" type="checkbox"/>	3.3.6	Is the pictogram black on a white background? (S4.5.1(b)(3)(iii))
	<input checked="" type="checkbox"/>	Driver Side, Yes – Pass
	<input type="checkbox"/>	Driver Side, No – Fail
	<input checked="" type="checkbox"/>	Passenger Side, Yes – Pass
	<input type="checkbox"/>	Passenger Side, No – Fail
<input checked="" type="checkbox"/>	3.3.7	Is the pictogram at least 30 mm (1.2 inches) in length? (S4.5.1(b)(3)(iii))
		Driver Side: Length <u>34 mm</u>
		Passenger Side: Length <u>34 mm</u>
	<input checked="" type="checkbox"/>	Driver Side, Yes – Pass
	<input type="checkbox"/>	Driver Side, No – Fail
	<input checked="" type="checkbox"/>	Passenger Side, Yes – Pass
	<input type="checkbox"/>	Passenger Side, No – Fail
<input checked="" type="checkbox"/>	3.4	Is the same side of the sun visor that contains the air bag warning label free of other information with the exception of the air bag maintenance label and/or the rollover-warning label? (S4.5.1(b)(5)(i))
	<input checked="" type="checkbox"/>	Driver Side, Yes – Pass
	<input type="checkbox"/>	Driver Side, No – Fail
	<input checked="" type="checkbox"/>	Passenger Side, Yes – Pass
	<input type="checkbox"/>	Passenger Side, No – Fail
<input checked="" type="checkbox"/>	3.5	Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label and/or the rollover-warning label? (S4.5.1(b)(5)(ii))
	<input checked="" type="checkbox"/>	Driver Side, Yes – Pass
	<input type="checkbox"/>	Driver Side, No – Fail
	<input checked="" type="checkbox"/>	Passenger Side, Yes – Pass
	<input type="checkbox"/>	Passenger Side, No – Fail
<input checked="" type="checkbox"/>	3.6	Does the driver side visor contain a rollover-warning label on the same side of the visor as the air bag warning label?
		<u>    </u> Yes, go to 3.6.1
		<u>  X  </u> No, go to 4 (skipping 3.6.1 through 3.6.3)
<input type="checkbox"/>	3.6.1	Are both the rollover-warning label and the air bag warning label surrounded by a continuous solid-lined border?
		<u>    </u> Yes, go to 3.6.2 and skip 3.6.3
		<u>    </u> No, go to 3.6.3 and skip 3.6.2
<input type="checkbox"/>	3.6.2	Is the shortest distance from the border of the rollover label to the border of the air bag warning label at least 1 cm? (575.105 (d)(1)(iv)(B))
		<u>                    </u> actual distance

<input type="checkbox"/>	3.6.3	Is the shortest distance from any of the lettering or graphics on the rollover-warning label to any of the lettering or graphics of the air bag warning label at least 3 cm? (575.105 (d)(1)(iv)(A))
		_____actual distance
		<input type="checkbox"/> Yes-Pass <input type="checkbox"/> No-FAIL
<input checked="" type="checkbox"/>	4.	Air Bag Alert Label (S4.5.1(c) (A "Rollover Warning Label" or "Rollover Alert Label" may be on the same side of the driver's sun visor as the "Air Bag Alert Label." 575.105(d))
<input checked="" type="checkbox"/>	4.1	Is the sun visor warning label visible when the sun visor is in the stowed position?
		<input type="checkbox"/> If yes for driver and passenger, go to 5.
		<input checked="" type="checkbox"/> Driver Side, Yes – Pass
		<input type="checkbox"/> Driver Side, No – Fail
		<input checked="" type="checkbox"/> Passenger Side, Yes – Pass
		<input type="checkbox"/> Passenger Side, No – Fail
<input checked="" type="checkbox"/>	4.2	Is the air bag alert label permanently affixed (including permanent marking on the visor material or molding into the visor material) to the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(c))
		<input checked="" type="checkbox"/> Driver Side, Yes – Pass
		<input type="checkbox"/> Driver Side, No – Fail
		<input checked="" type="checkbox"/> Passenger Side, Yes – Pass
		<input type="checkbox"/> Passenger Side, No – Fail
<input checked="" type="checkbox"/>	4.3	Is the air bag alert label visible when the visor is in the stowed position? (S4.5.1(c))
		<input checked="" type="checkbox"/> Driver Side, Yes – Pass
		<input type="checkbox"/> Driver Side, No – Fail
		<input checked="" type="checkbox"/> Passenger Side, Yes – Pass
		<input type="checkbox"/> Passenger Side, No – Fail

- ☒ 4.4 Does the label conform in content to the label shown in Figure 6C? (S4.5.1(c))

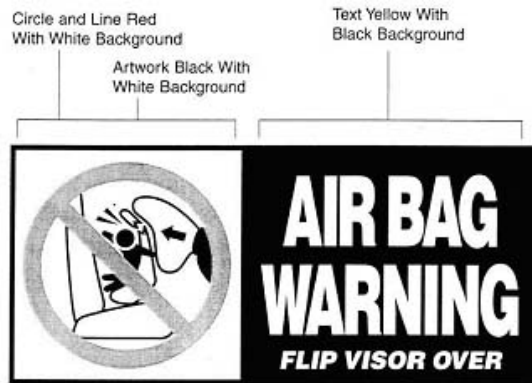


Figure 6c. Sun Visor Label Visible When Visor is in Up Position.

- ☒ Driver Side, Yes – Pass
- ☐ Driver Side, No – Fail
- ☒ Passenger Side, Yes – Pass
- ☐ Passenger Side, No – Fail
- ☒ 4.5 Is the message area black with yellow text? (S4.5.1(c)(1))
- ☒ Driver Side, Yes – Pass
- ☐ Driver Side, No – Fail
- ☒ Passenger Side, Yes – Pass
- ☐ Passenger Side, No – Fail
- ☒ 4.6 Is the message area at least 20 cm<sup>2</sup>? (S4.5.1(c)(1))
- Driver Side: Length 6 cm, Width 4 cm
- Passenger Side: Length 6 cm, Width 4 cm
- Actual message area 24 cm<sup>2</sup>
- ☒ Driver Side, Yes – Pass
- ☐ Driver Side, No – Fail
- ☒ Passenger Side, Yes – Pass
- ☐ Passenger Side, No – Fail
- ☒ 4.7 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(c)(2))
- ☒ Driver Side, Yes – Pass
- ☐ Driver Side, No – Fail
- ☒ Passenger Side, Yes – Pass
- ☐ Passenger Side, No – Fail

- ☒ 4.8 Is the pictogram at least 20 mm in diameter? (S4.5.1(c)(2))  
 Driver Side Diameter 32 mm  
 Passenger Side Diameter 32 mm
- ☒ Driver Side, Yes – Pass  
☐ Driver Side, No – Fail  
☒ Passenger Side, Yes – Pass  
☐ Passenger Side, No – Fail
- ☒ 5. Label on the Dashboard
- ☒ 5.1 Is the vehicle certified to meet the requirements of S19, S21, and S23? (Obtain answer from COTR) (S4.5.1(3)(2))
- ☒ Yes, go to 5.1.1 and **skip 5.2**  
☐ No, go to 5.2, skipping 5.1.1 through 5.1.6
- ☒ 5.1.1 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(2))
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 5.1.2 Is the label clearly visible from all front seating positions? (S4.5.1(e)(2))
- ☒ Yes – Pass  
☐ No - Fail
- ☒ 5.1.3 Does the label conform in content to the label shown in Figure 9? (S4.5.1(e)(2))  
 Vehicles without back seats may omit the statement: “The back seat is the safest place for children.” (S4.5.1(e)(2)(iii))
- ☒ Yes – Pass  
☐ No - Fail



Figure 9. Removable Label on Dash.

- ☒ 5.1.4 Is the heading area yellow with black text? (S4.5.1(e)(2)(i))
- ☒ Yes – Pass  
☐ No - Fail
- ☒ 5.1.5 Is the message white with black text? (S4.5.1(e)(2)(ii))
- ☒ Yes – Pass  
☐ No - Fail





5.1.6 Is the message area at least 30 cm<sup>2</sup>? (S4.5.1(e)(2)(ii))

Length 11.5 cm , Width 3.3 cm

Actual message area 37.95 cm<sup>2</sup>



Yes – Pass



No - Fail



5.2 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(1))



Yes – Pass



No - Fail



5.2.1 Is the label clearly visible from all front seating positions? (S4.5.1(e)(1))



Yes – Pass



No - Fail



5.2.2 Does the label conform in content to the label shown in Figure 7? (S4.5.1(e)(1)(iii))

Vehicles without back seats may omit the statement: “The back seat is the safest place for children.” (S4.5.1(e)(2)(iii))



Yes – Pass



No - Fail

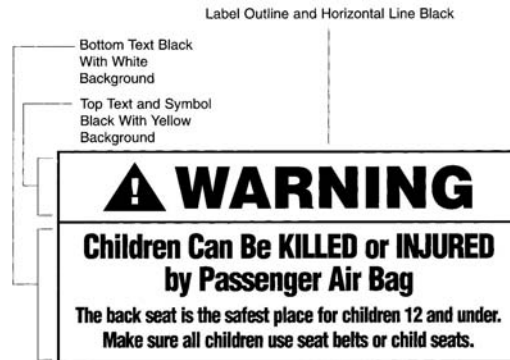


Figure 7. Removable Label on Dash.



5.2.3 Is the heading area yellow with the word “WARNING” and the alert symbol in black? (S4.5.1(e)(1)(i))



Yes – Pass



No - Fail



5.2.4 Is the message white with black text? (S4.5.1(e)(1)(ii))



Yes – Pass



No - Fail



5.2.5 Is the message area at least 30 cm<sup>2</sup>? (S4.5.1(e)(1)(ii))

Length    cm, Width    cm

Actual message area    cm<sup>2</sup>



Yes – Pass



No - Fail

I certify that I have read and performed each instruction.

Signature: Wayne Zuhl

Date: 11/12/04

## DATA SHEET 6

### FMVSS 208 READINESS INDICATOR (S4.5.2)

Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance  
Test Technician: Wayne Dahlke

NHTSA No.: C50501  
Test Date: 11/12/04

An occupant restraint system that deploys in the event of a crash shall have a monitoring system with a readiness indicator. A totally mechanical system is exempt from this requirement. (11/8/94 legal interpretation to Lawrence F. Hennegerger on behalf of Breed)

- ☒ 1. Is the system totally mechanical? If Yes, this data sheet is complete.  
☐ Yes  
☒ No
- ☒ 2. Describe the location of the readiness indicator: Left lower center of instrument cluster
- ☒ 3. Is the readiness indicator clearly visible to the driver?  
☒ Yes – Pass  
☐ No - Fail
- ☒ 4. Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided on a label or in the owner's manual?  
☒ Yes – Pass  
☐ No - Fail
- ☒ 5. Does the vehicle have an on-off switch for the passenger air bag?  
☐ If Yes, go to 6  
☒ If No, this form is complete.
- ☐ 6. Is the air bag readiness indicator off when the passenger air bag switch is in the off position?  
☐ Yes – Pass  
☐ No - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahlke

Date: 11/12/04

## DATA SHEET 7

### PASSENGER AIR BAG MANUAL CUT-OFF DEVICE (S4.5.4)

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 11/12/04

- |                                     |     |  |
|-------------------------------------|-----|--|
| <input checked="" type="checkbox"/> | 1.  | Is the vehicle equipped with an on-off switch that deactivates the air bag installed at the right front outboard seating position?   |
|                                     |     | <input type="checkbox"/> Yes, go to 2  |
|                                     |     | <input checked="" type="checkbox"/> No, this sheet is complete   |
| <input type="checkbox"/>            | 2.  | Does the vehicle have any forward-facing rear designated seating positions? (S4.5.4(a))  |
|                                     |     | <input type="checkbox"/> Yes, go to 3  |
|                                     |     | <input type="checkbox"/> No, go to 4   |
| <input type="checkbox"/>            | 3.  | Verification of the lack of room for a child restraint in the rear seat behind the driver's seat. (S4.5.4(b))  |
| <input type="checkbox"/>            | 3.1 | Position the seat's adjustable lumbar supports to that the lumbar support is in its lowest, retracted or deflated adjustment position (S8.1.3)   |
|                                     |     | <input type="checkbox"/> N/A, no lumbar adjustment   |
| <input type="checkbox"/>            | 3.2 | Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.02)   |
|                                     |     | <input type="checkbox"/> N/A, no additional support adjustment   |
| <input type="checkbox"/>            | 3.3 | If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  |
|                                     |     | <input type="checkbox"/> N/A, no independent fore-aft seat cushion adjustment  |
| <input type="checkbox"/>            | 3.4 | If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position (S16.2.10.3.1)  |
|                                     |     | <input type="checkbox"/> N/A, no independent seat cushion height adjustment  |
| <input type="checkbox"/>            | 3.5 | Put the seat in its full rearward position. (S16.2.10.3.1)   |
|                                     |     | <input type="checkbox"/> N/A, the seat does not have a fore-aft adjustment   |
| <input type="checkbox"/>            | 3.6 | If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)   |
|                                     |     | <input type="checkbox"/> N/A, no seat height adjustment  |
| <input type="checkbox"/>            | 3.7 | Draw a horizontal reference line on the side of the seat cushion.  |
| <input type="checkbox"/>            | 3.8 | Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward. |
|                                     |     | <input type="checkbox"/> N/A – the seat does not have a fore-aft adjustment.   |
| <input type="checkbox"/>            | 3.9 | Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position. (S8.1.2)   |
|                                     |     | <input type="checkbox"/> N/A – the seat does not have fore-aft adjustment.   |
|                                     |     | <input type="checkbox"/> Mid position  |

<input type="checkbox"/>		If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat:
<input type="checkbox"/>	3.10	If seat adjustments, other than fore-aft, are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal.
<input type="checkbox"/>		<input type="checkbox"/> N/A – No adjustments
<input type="checkbox"/>		Angle of reference line as tested:
<input type="checkbox"/>	3.11	The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)
<input type="checkbox"/>		<input type="checkbox"/> N/A – No seat back angle adjustment
<input type="checkbox"/>		Manufacturers design seat back angle:
<input type="checkbox"/>		Tested seat back angle:
<input type="checkbox"/>	3.12	Is the driver seat a bucket seat?
<input type="checkbox"/>		<input type="checkbox"/> Yes, go to 3.12.1 and skip 3.12.2
<input type="checkbox"/>		<input type="checkbox"/> No, go to 3.12.2 and skip 3.12.1
<input type="checkbox"/>	3.12.1	Bucket Seats:
<input type="checkbox"/>	3.12.1.1	Locate and mark a vertical Plane B through the longitudinal centerline of the seat driver's seat cushion. (S22.2.1.3) The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.
<input type="checkbox"/>		Record the width of the seat:
<input type="checkbox"/>		Record the distance from the edge of the seat to Plane B:
<input type="checkbox"/>	3.12.1.2	Locate the longitudinal horizontal line in plane B that is tangent to the highest point of the rear seat cushion behind the driver's seat. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the driver's seat.
<input type="checkbox"/>		Distance (mm):
<input type="checkbox"/>		<input type="checkbox"/> Less than 720 mm – Pass
<input type="checkbox"/>		<input type="checkbox"/> More then 720 mm – Fail
<input type="checkbox"/>		Go to 4
<input type="checkbox"/>	3.12.2	Bench seats (including split bench seats):
<input type="checkbox"/>	3.12.2.1	Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.
<input type="checkbox"/>	3.12.2.2	Locate the longitudinal horizontal line in plane B that is tangent to the highest point of the rear seat cushion. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the front seat.
<input type="checkbox"/>		Distance (mm):
<input type="checkbox"/>		<input type="checkbox"/> Less than 720 mm – Pass
<input type="checkbox"/>		<input type="checkbox"/> More then 720 mm – Fail
<input type="checkbox"/>		Go to 4

<input type="checkbox"/>	4.	Does the device turn the air bag on and off using the vehicle's ignition key? (S4.5.4.2)
	<input type="checkbox"/>	Yes – Pass
	<input type="checkbox"/>	No – Fail
<input type="checkbox"/>	5.	Is the on-off device separate from the ignition switch? (S4.5.4.2)
	<input type="checkbox"/>	Yes – Pass
	<input type="checkbox"/>	No – Fail
<input type="checkbox"/>	6.	Is there a telltale light that comes on when the passenger air bag is turned off? (S4.5.4.2)
	<input type="checkbox"/>	Yes – Pass
	<input type="checkbox"/>	No – Fail
<input type="checkbox"/>	7.	Telltale light (S4.5.4.3)
<input type="checkbox"/>	7.1	Is the light yellow? S4.5.4.3(a))
	<input type="checkbox"/>	Yes – Pass
	<input type="checkbox"/>	No – Fail
<input type="checkbox"/>	7.2	Are the words "PASSENGER AIR BAG OFF" (S4.5.4.3(b))
<input type="checkbox"/>	7.2.1	on the telltale?
	<input type="checkbox"/>	Yes – Pass, go to 7.3
	<input type="checkbox"/>	No – go to 7.2.2
<input type="checkbox"/>	7.2.2	within 25 mm of the telltale?
<input type="checkbox"/>		Measurement from the edge of the telltale light (mm):
	<input type="checkbox"/>	Yes – Pass
	<input type="checkbox"/>	No – Fail
<input type="checkbox"/>	7.3	Does the telltale remain illuminated while the air bag is turned off? (S4.5.4.3c)) (Leave the air bag off for 5 minutes.)
	<input type="checkbox"/>	Yes – Pass
	<input type="checkbox"/>	No – Fail
<input type="checkbox"/>	7.4	Is the telltale illuminated while the air bag is turned on? (S4.5.4.3(d))
	<input type="checkbox"/>	Yes – Fail
	<input type="checkbox"/>	No – Pass
<input type="checkbox"/>	7.5	Is the telltale combined with the air bag readiness indicator? (S4.5.4.3(e))
	<input type="checkbox"/>	Yes – Fail
	<input type="checkbox"/>	No – Pass
<input type="checkbox"/>	8.	Owner's Manual
<input type="checkbox"/>	8.1	Does the owner's manual contain complete instructions on the operation of the on-off switch? (S4.5.4.4(a))
	<input type="checkbox"/>	Yes – Pass
	<input type="checkbox"/>	No – Fail

<input type="checkbox"/>	8.2	<p>Does the owner's manual contain a statement that the on-off switch should only be used when a member of one of the following risk groups is occupying the right front passenger seating position? (S4.5.4.4(b))</p> <p>Infants:      there is no back seat                         the rear seat is too small to accommodate a child restraint                         there is a medical condition that must be monitored constantly</p> <p>Children      there is no back seat          aged        space is not always available in the rear seat          1 to 12:    there is a medical condition that must be monitored constantly</p> <p>Medical      medical risk causes special risk for passenger          condition:   greater risk for harm than with the air bag on</p> <p><input type="checkbox"/> Yes – Pass  <input type="checkbox"/> No – Fail</p>
<input type="checkbox"/>	8.3	<p>Does the owner's manual contain a warning about the safety consequences of using the on-off switch at other times?</p> <p><input type="checkbox"/> Yes – Pass  <input type="checkbox"/> No – Fail</p>

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Zuhl

Date: 11/12/04

## DATA SHEET 8

### LAP BELT LOCKABILITY

**Passenger cars, trucks, buses, and multipurpose passenger  
Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)**

Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance  
Test Technician: Wayne Dahlke

NHTSA No.: C50501  
Test Date: 11/12/04

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Front Passenger
------------------------------	-----------------

<input type="checkbox"/>		N/A – no retractor is at this position	
<input type="checkbox"/>		N/A – the retractor is an automatic locking retractor ONLY	
<input checked="" type="checkbox"/>	1.	Record test fore-aft seat position: Full Aft (S7.1.1.5(c)(1)) (Any position is acceptable)	
<input checked="" type="checkbox"/>	2.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does <b>NOT</b> have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))	
		<input checked="" type="checkbox"/> Yes – Pass	
		<input type="checkbox"/> No – Fail	
<input checked="" type="checkbox"/>	3.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does <b>NOT</b> require inverting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))	
		<input checked="" type="checkbox"/> Yes – Pass	
		<input type="checkbox"/> No – Fail	
<input checked="" type="checkbox"/>	4.	Buckle the seat belt. (S7.1.1.5(c)(1))	
<input checked="" type="checkbox"/>	5.	Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))	
<input checked="" type="checkbox"/>	6.	Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))	
<input checked="" type="checkbox"/>	7.	Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?	
		<input checked="" type="checkbox"/> Yes, go to 7.1	
		<input type="checkbox"/> No, go to 8	
<input checked="" type="checkbox"/>	7.1	Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))	
		<input checked="" type="checkbox"/> Yes – Pass	
		<input type="checkbox"/> No – Fail	
<input checked="" type="checkbox"/>	8.	Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))	



- ☒ 9. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
- ☒ Measured distance between A and B (inches): 71
- ☒ 10. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))
- ☒ 11. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
- ☒ Measured force application angle (Spec. 5-15 degrees): 10
- ☒ 12. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
- ☒ Measured distance between A and B (inches): 40.25
- ☒ 13. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
- ☒ Record onset rate (lb/sec) (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5)): 30
- ☒ Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 40.75
- ☒ 14. Subtract the measurement in 12 from the measurement in 13. Is the difference 2 inches or less? (S7.1.1.5(c)(7))
- ☒  $13 - 12 = 40.75 \text{ inches} - 40.25 \text{ inches} = 0.5 \text{ inches}$
- ☒ Yes – Pass
- ☐ No – Fail
- ☒ 15. Subtract the measurement in 13 from the measurement in 9. Is the difference 3 inches or more? (S7.1.1.5(c)(8))
- ☒  $9 - 13 = 71 \text{ inches} - 40.75 \text{ inches} = 30.25 \text{ inches}$
- ☒ Yes – Pass
- ☐ No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Gahl

Date: 11/12/04

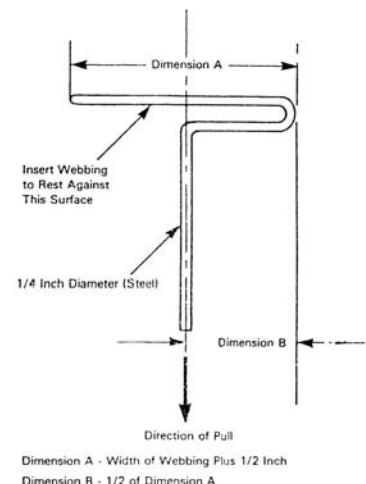


Figure 5. - Webbing Tension Pull Device

## DATA SHEET 8

### LAP BELT LOCKABILITY

**Passenger cars, trucks, buses, and multipurpose passenger  
Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)**

Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance  
Test Technician: Wayne Dahlke

NHTSA No.: C50501  
Test Date: 11/12/04

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Left Rear Passenger
------------------------------	---------------------

<input type="checkbox"/>		N/A – no retractor is at this position	
<input type="checkbox"/>		N/A – the retractor is an automatic locking retractor ONLY	
<input checked="" type="checkbox"/>	1.	Record test fore-aft seat position: Not Adjustable (S7.1.1.5(c)(1)) (Any position is acceptable)	
<input checked="" type="checkbox"/>	2.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does <b>NOT</b> have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))	
		<input checked="" type="checkbox"/> Yes – Pass	
		<input type="checkbox"/> No – Fail	
<input checked="" type="checkbox"/>	3.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does <b>NOT</b> require inverting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))	
		<input checked="" type="checkbox"/> Yes – Pass	
		<input type="checkbox"/> No – Fail	
<input checked="" type="checkbox"/>	4.	Buckle the seat belt. (S7.1.1.5(c)(1))	
<input checked="" type="checkbox"/>	5.	Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))	
<input checked="" type="checkbox"/>	6.	Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))	
<input checked="" type="checkbox"/>	7.	Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?	
		<input checked="" type="checkbox"/> Yes, go to 7.1	
		<input type="checkbox"/> No, go to 8	
<input checked="" type="checkbox"/>	7.1	Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))	
		<input checked="" type="checkbox"/> Yes – Pass	
		<input type="checkbox"/> No – Fail	
<input checked="" type="checkbox"/>	8.	Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))	

- ☒ 9. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
- ☒ Measured distance between A and B (inches): 64.5
- ☒ 10. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))
- ☒ 11. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
- ☒ Measured force application angle (Spec. 5-15 degrees): 10
- ☒ 12. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
- ☒ Measured distance between A and B (inches): 45.25
- ☒ 13. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
- ☒ Record onset rate (lb/sec) (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5)): 30
- ☒ Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 46
- ☒ 14. Subtract the measurement in 12 from the measurement in 13. Is the difference 2 inches or less? (S7.1.1.5(c)(7))
- ☒  $13 - 12 = 46 \text{ inches} - 45.25 \text{ inches} = 0.75 \text{ inches}$
- ☒ Yes – Pass
- ☐ No – Fail
- ☒ 15. Subtract the measurement in 13 from the measurement in 9. Is the difference 3 inches or more? (S7.1.1.5(c)(8))
- ☒  $9 - 13 = 64.5 \text{ inches} - 46 \text{ inches} = 18.5 \text{ inches}$
- ☒ Yes – Pass
- ☐ No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Zuhl

Date: 11/12/04

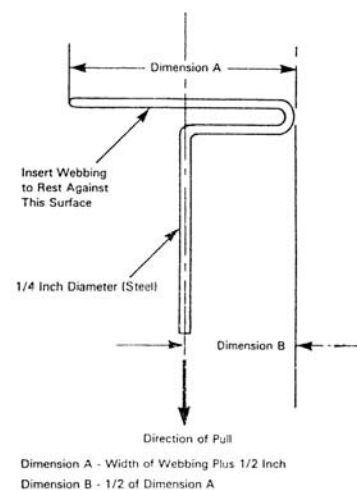


Figure 5. - Webbing Tension Pull Device

## DATA SHEET 8

### LAP BELT LOCKABILITY

**Passenger cars, trucks, buses, and multipurpose passenger  
Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)**

Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance  
Test Technician: Wayne Dahlke

NHTSA No.: C50501  
Test Date: 11/12/04

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Center Rear Passenger
------------------------------	-----------------------

<input type="checkbox"/>		N/A – no retractor is at this position	
<input type="checkbox"/>		N/A – the retractor is an automatic locking retractor ONLY	
<input checked="" type="checkbox"/>	1.	Record test fore-aft seat position: Not Adjustable (S7.1.1.5(c)(1)) (Any position is acceptable)	
<input checked="" type="checkbox"/>	2.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does <b>NOT</b> have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))	
		<input checked="" type="checkbox"/> Yes – Pass	
		<input type="checkbox"/> No – Fail	
<input checked="" type="checkbox"/>	3.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does <b>NOT</b> require inverting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))	
		<input checked="" type="checkbox"/> Yes – Pass	
		<input type="checkbox"/> No – Fail	
<input checked="" type="checkbox"/>	4.	Buckle the seat belt. (S7.1.1.5(c)(1))	
<input checked="" type="checkbox"/>	5.	Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))	
<input checked="" type="checkbox"/>	6.	Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))	
<input checked="" type="checkbox"/>	7.	Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?	
		<input checked="" type="checkbox"/> Yes, go to 7.1	
		<input type="checkbox"/> No, go to 8	
<input checked="" type="checkbox"/>	7.1	Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))	
		<input checked="" type="checkbox"/> Yes – Pass	
		<input type="checkbox"/> No – Fail	
<input checked="" type="checkbox"/>	8.	Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))	

- ☒ 9. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
- ☒ Measured distance between A and B (inches): 62
- ☒ 10. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))
- ☒ 11. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
- ☒ Measured force application angle (Spec. 5-15 degrees): 10
- ☒ 12. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
- ☒ Measured distance between A and B (inches): 45.5
- ☒ 13. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
- ☒ Record onset rate (lb/sec) (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5)): 30
- ☒ Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 46
- ☒ 14. Subtract the measurement in 12 from the measurement in 13. Is the difference 2 inches or less? (S7.1.1.5(c)(7))
- ☒  $13 - 12 = 46 \text{ inches} - 45.5 \text{ inches} = 0.5 \text{ inches}$
- ☒ Yes – Pass
- ☐ No – Fail
- ☒ 15. Subtract the measurement in 13 from the measurement in 9. Is the difference 3 inches or more? (S7.1.1.5(c)(8))
- ☒  $9 - 13 = 62 \text{ inches} - 46 \text{ inches} = 16 \text{ inches}$
- ☒ Yes – Pass
- ☐ No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Zuhl

Date: 11/12/04

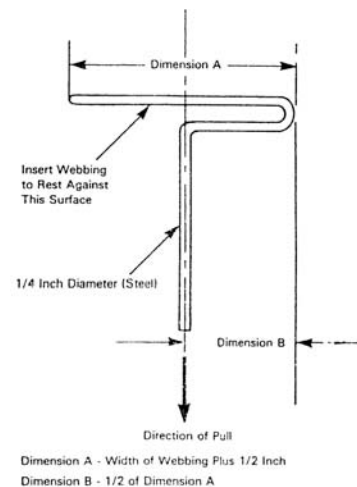


Figure 5. - Webbing Tension Pull Device

## DATA SHEET 8

### LAP BELT LOCKABILITY

**Passenger cars, trucks, buses, and multipurpose passenger  
Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)**

Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance  
Test Technician: Wayne Dahlke

NHTSA No.: C50501  
Test Date: 11/12/04

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Right Rear Passenger
------------------------------	----------------------

<input type="checkbox"/>		N/A – no retractor is at this position	
<input type="checkbox"/>		N/A – the retractor is an automatic locking retractor ONLY	
<input checked="" type="checkbox"/>	1.	Record test fore-aft seat position: Not Adjustable (S7.1.1.5(c)(1)) (Any position is acceptable)	
<input checked="" type="checkbox"/>	2.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does <b>NOT</b> have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))	
		<input checked="" type="checkbox"/> Yes – Pass	
		<input type="checkbox"/> No – Fail	
<input checked="" type="checkbox"/>	3.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does <b>NOT</b> require inverting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))	
		<input checked="" type="checkbox"/> Yes – Pass	
		<input type="checkbox"/> No – Fail	
<input checked="" type="checkbox"/>	4.	Buckle the seat belt. (S7.1.1.5(c)(1))	
<input checked="" type="checkbox"/>	5.	Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))	
<input checked="" type="checkbox"/>	6.	Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))	
<input checked="" type="checkbox"/>	7.	Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?	
		<input checked="" type="checkbox"/> Yes, go to 7.1	
		<input type="checkbox"/> No, go to 8	
<input checked="" type="checkbox"/>	7.1	Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))	
		<input checked="" type="checkbox"/> Yes – Pass	
		<input type="checkbox"/> No – Fail	
<input checked="" type="checkbox"/>	8.	Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))	

- ☒ 9. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
- ☒ Measured distance between A and B (inches): 66
- ☒ 10. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))
- ☒ 11. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
- ☒ Measured force application angle (Spec. 5-15 degrees): 10
- ☒ 12. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
- ☒ Measured distance between A and B (inches): 45
- ☒ 13. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
- ☒ Record onset rate (lb/sec) (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5)): 30
- ☒ Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 45.5
- ☒ 14. Subtract the measurement in 12 from the measurement in 13. Is the difference 2 inches or less? (S7.1.1.5(c)(7))
- ☒  $13 - 12 = 45.5 \text{ inches} - 45 \text{ inches} = 0.5 \text{ inches}$
- ☒ Yes – Pass
- ☐ No – Fail
- ☒ 15. Subtract the measurement in 13 from the measurement in 9. Is the difference 3 inches or more? (S7.1.1.5(c)(8))
- ☒  $9 - 13 = 66 \text{ inches} - 45.5 \text{ inches} = 20.5 \text{ inches}$
- ☒ Yes – Pass
- ☐ No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Zuhl

Date: 11/12/04

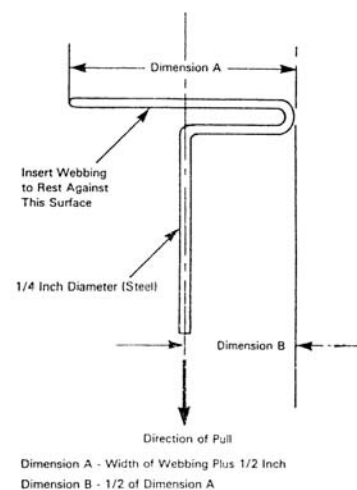


Figure 5. - Webbing Tension Pull Device



## DATA SHEET 9

### FMVSS 208 SEAT BELT WARNING SYSTEM CHECK (S7.3)

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 11/12/04

- |          |     |   |
|----------|-----|---|
| <b>X</b> | 1.  | The occupant is in the driver's seat.   |
| <b>X</b> | 2.  | The seat belt is in the stowed position.  |
| <b>X</b> | 3.  | The key is in the "on" or "start" position.   |
| <b>X</b> | 4.  | The time duration of the audible signal beginning with key "on" or "start" is                       |
| <b>X</b> |     | Seconds: 6.0  |
| <b>X</b> | 5.  | The occupant is in the driver's seat.   |
| <b>X</b> | 6.  | The seat belt is in the stowed position.  |
| <b>X</b> | 7.  | The key is in the "on" or "start" position.   |
| <b>X</b> | 8.  | The time duration of the warning light beginning with key "on" or "start" is                        |
| <b>X</b> |     | Seconds: Stays On   |
| <b>X</b> | 9.  | The occupant is in the driver's seat.   |
| <b>X</b> | 10. | The seat belt is in the latched position and with at least 4 inches of belt webbing extended.       |
| <b>X</b> | 11. | The key is in the "on" or "start" position.   |
| <b>X</b> | 12. | The time duration of the audible signal beginning with key "on" or "start" is                       |
| <b>X</b> |     | Seconds: 0.0  |
| <b>X</b> | 13. | The occupant is in the driver's seat.   |
| <b>X</b> | 14. | The seat belt is in the latched position and with at least 4 inches of belt webbing extended.       |
| <b>X</b> | 15. | The key is in the "on" or "start" position.   |
| <b>X</b> | 16. | The time duration of the warning light beginning with key "on" or "start" is                        |
| <b>X</b> |     | Seconds: 0.0  |
| <b>X</b> | 17. | Complete the following table with the data from 4, 8, 12, and 16 to determine which option is used. |

		Warning light	Warning light specification	Audible signal	Audible signal specification*
S7.3 (a)(1)	Belt latched & key on or start	Item 16: 0.0		Item 12: 0.0	0 seconds**
	Belt stowed & key on or start	Item 8: Stays On	60 seconds minimum	Item 4: 6.0	4 to 8 seconds
S7.3 (a)(2)	Belt latched & key on or start	Item 16: 0.0	4 to 8 seconds	Item 12: 0.0	0 seconds**
	Belt stowed & key on or start	Item 8: Stays On	4 to 8 seconds	Item 4: 6.0	4 to 8 seconds

\* 49 USCS @ 30124 does NOT allow an audible signal to operate for more than 8 seconds.

\*\* 0 seconds means the light or audible signal are NOT permitted to operate under these conditions.  
 See 7/12/00 interpretation to Patrick Raheer of Hogan and Hartson



- ☒ 18. The seat belt warning system meets the requirements of (manufacturers may comply with either section)
- ☒ S7.3 (a)(1)
  - ☐ S7.3 (a)(2)
  - ☐ FAIL – does not meet the requirements of either option
- ☒ 19. Note wording of visual warning: (S7.3(a)(1) and S7.3(a)(2))
- ☐ Fasten seat belts
  - ☐ Fasten belts
  - ☒ Symbol 101
  - ☐ FAIL – does not use any of the above wording or symbol

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Z. Ahl

Date: 11/12/04

# DATA SHEET 10

## BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 11/12/04

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Left Rear Passenger
------------------------------	---------------------

- |          |    |  |
|----------|----|--|
| <b>X</b> | 1. | Does the vehicle incorporate a webbing tension-relieving device?   |
|          |    | <input type="checkbox"/> Yes, this form is complete  |
|          |    | <b>X</b> No, continue with this check sheet  |
| <b>X</b> | 2. | Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)  |
|          |    | <b>X</b> N/A, no lumbar adjustment   |
| <b>X</b> | 3. | Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)  |
|          |    | <b>X</b> N/A, no additional support adjustment   |
| <b>X</b> | 4. | If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  |
|          |    | <b>X</b> N/A, no independent fore-aft seat cushion adjustment  |
| <b>X</b> | 5. | If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)   |
|          |    | <b>X</b> N/A, no independent seat cushion height adjustment  |
| <b>X</b> | 6. | Put the seat in its full rearward position. (S16.2.10.3.1)   |
|          |    | <b>X</b> N/A, the seat does not have a fore-aft adjustment   |
| <b>X</b> | 7. | If the seat height is adjustable, set this adjustment to the full down position. (S16.2.10.3.1)  |
|          |    | <b>X</b> N/A, no seat height adjustment  |
| <b>X</b> | 8. | Draw a horizontal reference line on the side of the seat cushion.  |
| <b>X</b> | 9. | Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward. |
|          |    | <b>X</b> N/A, the seat does not have a fore-aft adjustment   |

- ☒ 10. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)  
☒ Mid position  
 If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: No Adjustment
- ☒ 11. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)  
☒ N/A, no adjustments  
 Reference line angle as tested: Zero degrees
- ☒ 12. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)  
☒ N/A, no seat back angle adjustment  
☒ Manufacturer's design seat back angle: No Adjustment  
☒ Tested seat back angle: No Adjustment
- ☒ 13. Position the test dummies according to dummy position placement instructions in Appendix F.
- ☒ 14. Fasten the seat belt latch.
- ☒ 15. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.
- ☒ 16. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.  
☒ Contact Force (lb): 0.5  
☒ 0.0 to 0.7 pounds – Pass  
☐ Greater than 0.7 pounds – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Zuhl

Date: 11/12/04

# **DATA SHEET 10** **BELT CONTACT FORCE (S7.4.3)**

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 11/12/04

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Center Rear Passenger
------------------------------	-----------------------

- |          |    |  |
|----------|----|--|
| <b>X</b> | 1. | Does the vehicle incorporate a webbing tension-relieving device?   |
|          |    | <input type="checkbox"/> Yes, this form is complete  |
|          |    | <b>X</b> No, continue with this check sheet  |
| <b>X</b> | 2. | Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)  |
|          |    | <b>X</b> N/A, no lumbar adjustment   |
| <b>X</b> | 3. | Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)  |
|          |    | <b>X</b> N/A, no additional support adjustment   |
| <b>X</b> | 4. | If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  |
|          |    | <b>X</b> N/A, no independent fore-aft seat cushion adjustment  |
| <b>X</b> | 5. | If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)   |
|          |    | <b>X</b> N/A, no independent seat cushion height adjustment  |
| <b>X</b> | 6. | Put the seat in its full rearward position. (S16.2.10.3.1)   |
|          |    | <b>X</b> N/A, the seat does not have a fore-aft adjustment   |
| <b>X</b> | 7. | If the seat height is adjustable, set this adjustment to the full down position. (S16.2.10.3.1)  |
|          |    | <b>X</b> N/A, no seat height adjustment  |
| <b>X</b> | 8. | Draw a horizontal reference line on the side of the seat cushion.  |
| <b>X</b> | 9. | Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward. |
|          |    | <b>X</b> N/A, the seat does not have a fore-aft adjustment   |

- ☒ 10. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)  
☒ Mid position  
 If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: No Adjustment
- ☒ 11. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)  
☒ N/A, no adjustments  
 Reference line angle as tested: Zero degrees
- ☒ 12. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)  
☒ N/A, no seat back angle adjustment  
☒ Manufacturer's design seat back angle: No Adjustment  
☒ Tested seat back angle: No Adjustment
- ☒ 13. Position the test dummies according to dummy position placement instructions in Appendix F.
- ☒ 14. Fasten the seat belt latch.
- ☒ 15. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.
- ☒ 16. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.  
☒ Contact Force (lb): 0.35  
☒ 0.0 to 0.7 pounds – Pass  
☐ Greater than 0.7 pounds – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Zuhl

Date: 11/12/04

# **DATA SHEET 10** **BELT CONTACT FORCE (S7.4.3)**

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 11/12/04

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Right Rear Passenger
------------------------------	----------------------

- |          |    |  |
|----------|----|--|
| <b>X</b> | 1. | Does the vehicle incorporate a webbing tension-relieving device?   |
|          |    | <input type="checkbox"/> Yes, this form is complete  |
|          |    | <b>X</b> No, continue with this check sheet  |
| <b>X</b> | 2. | Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)  |
|          |    | <b>X</b> N/A, no lumbar adjustment   |
| <b>X</b> | 3. | Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)  |
|          |    | <b>X</b> N/A, no additional support adjustment   |
| <b>X</b> | 4. | If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  |
|          |    | <b>X</b> N/A, no independent fore-aft seat cushion adjustment  |
| <b>X</b> | 5. | If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)   |
|          |    | <b>X</b> N/A, no independent seat cushion height adjustment  |
| <b>X</b> | 6. | Put the seat in its full rearward position. (S16.2.10.3.1)   |
|          |    | <b>X</b> N/A, the seat does not have a fore-aft adjustment   |
| <b>X</b> | 7. | If the seat height is adjustable, set this adjustment to the full down position. (S16.2.10.3.1)  |
|          |    | <b>X</b> N/A, no seat height adjustment  |
| <b>X</b> | 8. | Draw a horizontal reference line on the side of the seat cushion.  |
| <b>X</b> | 9. | Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward. |
|          |    | <b>X</b> N/A, the seat does not have a fore-aft adjustment   |

- ☒ 10. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)  
☒ Mid position  
 If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: No Adjustment
- ☒ 11. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)  
☒ N/A, no adjustments  
 Reference line angle as tested: Zero degrees
- ☒ 12. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)  
☒ N/A, no seat back angle adjustment  
☒ Manufacturer's design seat back angle: No Adjustment  
☒ Tested seat back angle: No Adjustment
- ☒ 13. Position the test dummies according to dummy position placement instructions in Appendix F.
- ☒ 14. Fasten the seat belt latch.
- ☒ 15. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.
- ☒ 16. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.  
☒ Contact Force (lb): 0.47  
☒ 0.0 to 0.7 pounds – Pass  
☐ Greater than 0.7 pounds – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Zuhl

Date: 11/12/04

# DATA SHEET 11

## LATCH PLATE ACCESS (S7.4.4)

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 11/12/04

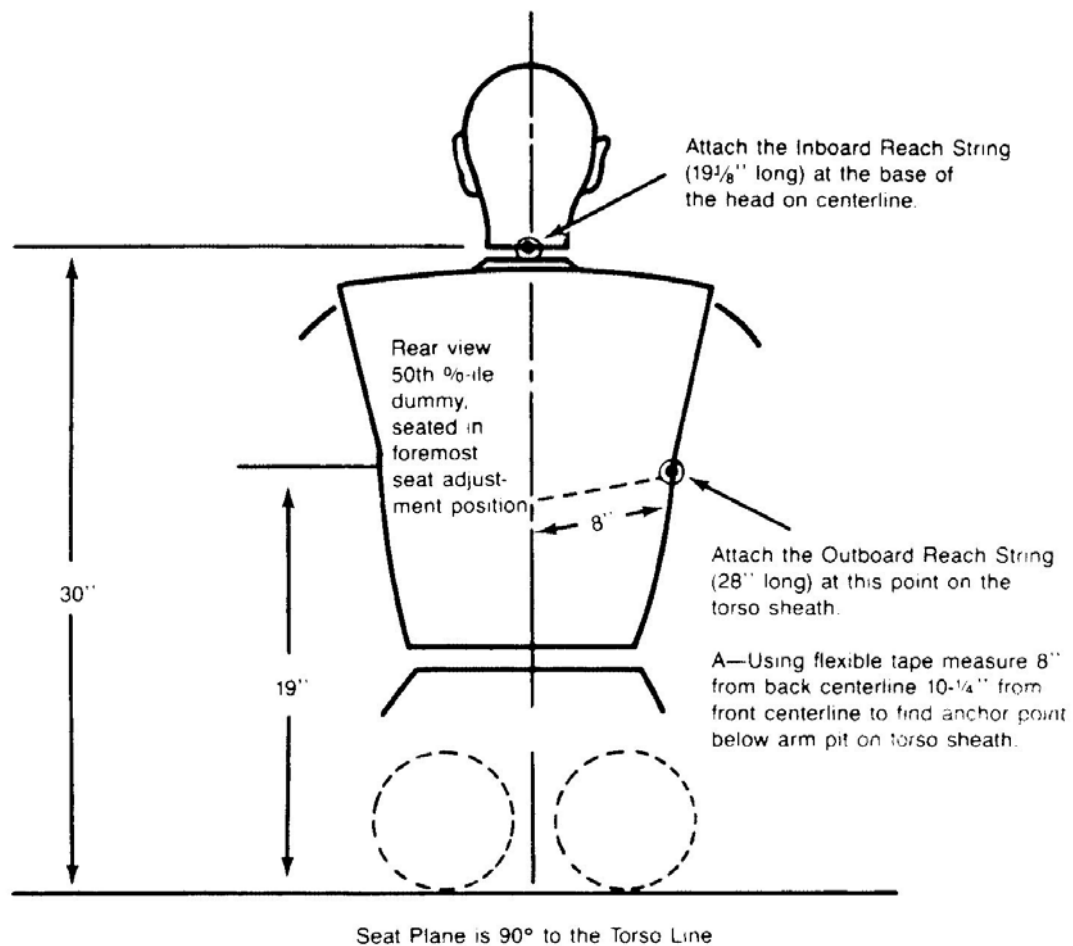
Test all front outboard seat belts **other than those in** walk-in van-type vehicles and those at front outboard designated seating positions in **passenger cars**. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Not Applicable For Any Position - Passenger Car
------------------------------	---

- |  |     |  |
|--|-----|--|
| <div style="background-color: yellow; width: 20px; height: 15px; margin-bottom: 5px;"></div> | 1.  | Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (8.1.3)   |
|  |     | <div style="background-color: yellow; width: 20px; height: 15px; display: inline-block; vertical-align: middle;"></div> N/A, no lumbar adjustment  |
| <div style="background-color: yellow; width: 20px; height: 15px; margin-bottom: 5px;"></div> | 2.  | Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)  |
|  |     | <div style="background-color: yellow; width: 20px; height: 15px; display: inline-block; vertical-align: middle;"></div> N/A, no additional support adjustment  |
| <div style="background-color: yellow; width: 20px; height: 15px; margin-bottom: 5px;"></div> | 3.  | If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  |
|  |     | <div style="background-color: yellow; width: 20px; height: 15px; display: inline-block; vertical-align: middle;"></div> N/A, no independent fore-aft seat cushion adjustment   |
| <div style="background-color: yellow; width: 20px; height: 15px; margin-bottom: 5px;"></div> | 4.  | If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)   |
|  |     | <div style="background-color: yellow; width: 20px; height: 15px; display: inline-block; vertical-align: middle;"></div> N/A, no independent seat cushion height adjustment   |
| <div style="background-color: yellow; width: 20px; height: 15px; margin-bottom: 5px;"></div> | 5.  | Put the seat in its full rearward position. (S16.2.10.3.1)   |
|  |     | <div style="background-color: yellow; width: 20px; height: 15px; display: inline-block; vertical-align: middle;"></div> N/A, the seat does not have a fore-aft adjustment  |
| <div style="background-color: yellow; width: 20px; height: 15px; margin-bottom: 5px;"></div> | 6.  | If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)   |
|  |     | <div style="background-color: yellow; width: 20px; height: 15px; display: inline-block; vertical-align: middle;"></div> N/A, no seat height adjustment   |
| <div style="background-color: yellow; width: 20px; height: 15px; margin-bottom: 5px;"></div> | 7.  | Draw a horizontal reference line on the side of the seat cushion   |
| <div style="background-color: yellow; width: 20px; height: 15px; margin-bottom: 5px;"></div> | 8.  | Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward. |
|  |     | <div style="background-color: yellow; width: 20px; height: 15px; display: inline-block; vertical-align: middle;"></div> N/A, the seat does not have a fore-aft adjustment.   |
| <div style="background-color: yellow; width: 20px; height: 15px; margin-bottom: 5px;"></div> | 9.  | Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the forward most fore-aft position for this test. (S10.7)  |
| <div style="background-color: yellow; width: 20px; height: 15px; margin-bottom: 5px;"></div> | 10. | If seat adjustments, other than fore-aft, are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal.  |
|  |     | <div style="background-color: yellow; width: 20px; height: 15px; display: inline-block; vertical-align: middle;"></div> N/A, no adjustments  |



<input type="checkbox"/>	Reference line angle as tested: Zero
<input type="checkbox"/>	11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)
<input type="checkbox"/>	<input type="checkbox"/> N/A, no seat back angle adjustment
<input type="checkbox"/>	Manufacturer's design seat back angle:
<input type="checkbox"/>	Tested seat back angle:
<input type="checkbox"/>	12. Position the test dummy using the procedures in Appendix A. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position. Note on the Appendix A positioning check sheet any deviations necessary to position the Part 572, Subpart E dummy.) Include the positioning check sheet with this form.
<input type="checkbox"/>	13. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50 <sup>th</sup> percentile adult male occupant.
<input type="checkbox"/>	14. Attach the inboard reach string to the base of the head following the instructions on Figure 3.
<input type="checkbox"/>	15. Attach the outboard reach string to the torso sheath following the instructions on Figure 3.
<input type="checkbox"/>	16. Place the latch plate in the stowed position.
<input type="checkbox"/>	17. Extend inboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?
<input type="checkbox"/>	<input type="checkbox"/> Yes – Pass
<input type="checkbox"/>	<input type="checkbox"/> No
<input type="checkbox"/>	18. Extend outboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?
<input type="checkbox"/>	<input type="checkbox"/> Yes – Pass
<input type="checkbox"/>	<input type="checkbox"/> No
<input type="checkbox"/>	19. Is the latch plate within the inboard (item 17) or outboard (item 18) reach envelope?
<input type="checkbox"/>	<input type="checkbox"/> Yes – Pass
<input type="checkbox"/>	<input type="checkbox"/> No – Fail
<input type="checkbox"/>	20. Using the clearance test block, specified in Figure 4, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?
<input type="checkbox"/>	<input type="checkbox"/> Yes – Pass
<input type="checkbox"/>	<input type="checkbox"/> No – Fail



**Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device**

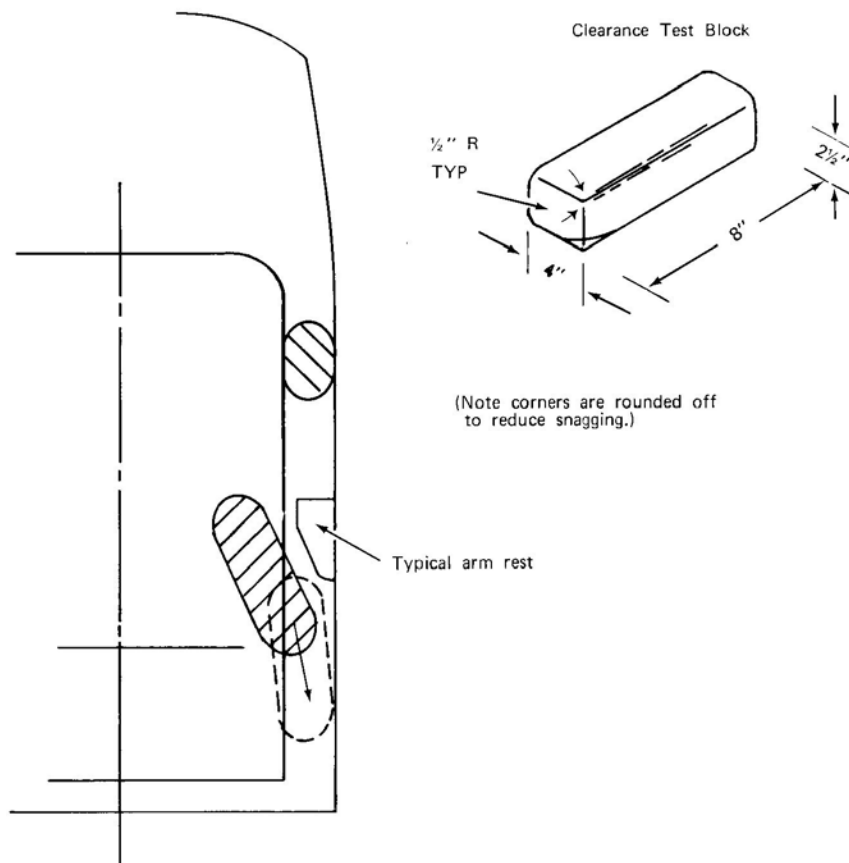


Figure 4—USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Gahlh

Date: 11/12/04

## DATA SHEET 12

### SEAT BELT RETRACTION (S7.4.5)

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 11/12/04

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Not Applicable For Any Position - Passenger Car
GVWR:	

- ☒ 1. Is the vehicle a passenger car or walk-in van-type vehicle?
  - ☒ Yes, this form is complete
  - ☐ No
- ☐ 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
  - ☐ N/A, no lumbar adjustment
- ☐ 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
  - ☐ N/A, no additional support adjustment
- ☐ 4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position.) (S16.2.10.3.1)
  - ☐ N/A, no independent fore-aft seat cushion adjustment
- ☐ 5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
  - ☐ N/A, no independent seat cushion height adjustment
- ☐ 6. Put the seat in its full rearward position.
  - ☐ N/A, the seat does not have a fore-aft adjustment
- ☐ 7. If the seat height is adjustable, put it in the full down position. (S8.1.2)
  - ☐ N/A, no seat adjustment
- ☐ 8. Draw a horizontal line on the side of the seat cushion.
- ☐ 9. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
  - ☐ N/A, the seat does not have a fore-aft adjustment.
- ☐ 10. Using only the controls that change the seat in the fore-aft direction, place the seat in the middle fore-aft position. (S8.1.2)
  - ☐ If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat:

- ☐ 11. If seat adjustments, other than fore-aft, are present and the reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2)
- ☐ N/A – no seat adjustment
- ☐ Reference angle as tested:
- ☐ 12. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S8.1.3)
- ☐ N/A – no seat back angle adjustment
- ☐ Manufacturer's design seat back angle:
- ☐ Tested seat back angle:
- ☐ 13. If adjustable, set the head restraint at the full up and full forward position. (S8.1.3) Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible.
- ☐ N/A – no head restraint adjustment
- ☐ 14. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S8.1.3)
- ☐ N/A – no adjustable upper seat belt anchorage
- ☐ Manufacturer's specified anchorage position:
- ☐ Tested anchorage position:
- ☐ 15. Is the driver seat a bucket seat?
- ☐ Yes, go to 15.1 and skip 15.2.
- ☐ No, go to 15.2 and skip 15.1
- ☐ 15.1 Bucket seats - Locate and mark a vertical Plane B through the longitudinal centerline of the seat. The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.
- ☐ Record the width of the seat:
- ☐ Record the distance from the edge of the seat to Plane B.
- ☐ 15.2 Bench seats (including split bench seats):
- ☐ Driver seat: Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.
- ☐ Passenger seat: Locate and mark a vertical longitudinal Plane B on the seat that is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel.
- ☐ Distance from the vehicle centerline to the center of the steering wheel:
- ☐ Distance from the vehicle centerline to Plane B:
- ☐ 16. Stow outboard armrests that are capable of being stowed. (S7.4.5)
- ☐ 17. Remove the arms of a Subpart E dummy and place it in the seat such that the midsagittal plane is coincident with Plane B and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)
- ☐ 18. Rest the thighs on the seat cushion

- ☐ 19. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)
- ☐ Horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
  - ☐ Vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
  - ☐ Pelvic angle (20° to 25°)
  - ☐ Vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
  - ☐ Pelvic angle (20° to 25°) (S10.4.2.2)
- ☐ 20. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches. Measured distance (10.6 inches) (S10.5):
- ☐ 21. To the extent practicable keep the thighs and the legs in a vertical plane (S10.5) and rest the thighs on the seat cushion while resting the feet on the floorpan or toe board.
- ☐ 22. Fasten the seat belt around the dummy.
- ☐ 23. Remove all slack from the lap belt portion. (S10.9)
- ☐ 24. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)
- ☐ 25. Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
- ☐ Pound load applied:
- ☐ 26. Is the belt system equipped with a tension relieving device?
- ☐ \_\_ Yes, continue
  - ☐ \_\_ No, go to 27
- ☐ 26.1 Introduce the maximum amount of slack into the upper torso bet that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9). Go to 25.
- ☐ 27. Check the statement that applies to this test vehicle:
- ☐ 27.1 Check the statement that applies to this test vehicle:  
The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released.
- ☐ Pass
- ☐ 27.2 The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released.
- ☐ Pass
- ☐ 27.3 Neither A or B apply
- ☐ Fail
- ☐ 28. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?
- ☐ Yes – Pass
  - ☐ No – Fail

☐

29. If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?

☐

N/A

☐

Yes – Pass

☐

No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature:

Wayne Zuhl

Date:

11/12/04

## DATA SHEET 13

### SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 11/12/04

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Left Rear Passenger
------------------------------	---------------------

- |          |    |  |
|----------|----|--|
| <b>X</b> | 1. | Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))   |
|          |    | <input type="checkbox"/> Yes, this form is complete  |
|          |    | <b>X</b> No, go to 2   |
| <b>X</b> | 2. | Is the seat removable? (S7.4.6.1(b))   |
|          |    | <input type="checkbox"/> Yes, this form is complete  |
|          |    | <b>X</b> No, go to 3   |
| <b>X</b> | 3. | Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))  |
|          |    | <input type="checkbox"/> Yes, this form is complete  |
|          |    | <b>X</b> No, go to 4   |
| <b>X</b> | 4. | Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))  |
|          |    | <b>X</b> Yes, go to 5  |
|          |    | <input type="checkbox"/> No, this form is complete   |
| <b>X</b> | 5. | Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a)) |
|          |    | <b>X</b> Yes – Pass  |
|          |    | <input type="checkbox"/> No – Fail   |
|          |    | Identify the part(s) on top or above the seat.   |
|          |    | <b>X</b> Seat belt latch plate   |
|          |    | <b>X</b> Buckle  |
|          |    | <b>X</b> Seat belt webbing   |
| <b>X</b> | 6. | Are the remaining two seat belt parts accessible under normal conditions?  |
|          |    | <b>X</b> Yes – Pass  |
|          |    | <input type="checkbox"/> No – Fail   |
| <b>X</b> | 7. | The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)   |
|          |    | <b>X</b> Yes – Pass  |
|          |    | <input type="checkbox"/> No – Fail   |



- ☒ 8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
- ☒ Yes – Pass
- ☐ No – Fail
- ☒ 9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
- ☒ Yes – Pass
- ☐ No – Fail
- ☒ 10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
- ☐ Yes – Pass
- ☐ No – Fail
- ☒ N/A – Rear seat

REMARKS:

I certify that I have read and performed each instruction.

Signature:

Wayne Zuhl

Date:

11/12/04

## DATA SHEET 13

### SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 11/12/04

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Center Rear Passenger
------------------------------	-----------------------

- |          |    |  |
|----------|----|--|
| <b>X</b> | 1. | Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))   |
|          |    | <input type="checkbox"/> Yes, this form is complete  |
|          |    | <input checked="" type="checkbox"/> No, go to 2  |
| <b>X</b> | 2. | Is the seat removable? (S7.4.6.1(b))   |
|          |    | <input type="checkbox"/> Yes, this form is complete  |
|          |    | <input checked="" type="checkbox"/> No, go to 3  |
| <b>X</b> | 3. | Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))  |
|          |    | <input type="checkbox"/> Yes, this form is complete  |
|          |    | <input checked="" type="checkbox"/> No, go to 4  |
| <b>X</b> | 4. | Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))  |
|          |    | <input checked="" type="checkbox"/> Yes, go to 5   |
|          |    | <input type="checkbox"/> No, this form is complete   |
| <b>X</b> | 5. | Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a)) |
|          |    | <input checked="" type="checkbox"/> Yes – Pass   |
|          |    | <input type="checkbox"/> No – Fail   |
|          |    | Identify the part(s) on top or above the seat.   |
|          |    | <input checked="" type="checkbox"/> Seat belt latch plate  |
|          |    | <input checked="" type="checkbox"/> Buckle   |
|          |    | <input checked="" type="checkbox"/> Seat belt webbing  |
| <b>X</b> | 6. | Are the remaining two seat belt parts accessible under normal conditions?  |
|          |    | <input checked="" type="checkbox"/> Yes – Pass   |
|          |    | <input type="checkbox"/> No – Fail   |
| <b>X</b> | 7. | The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)   |
|          |    | <input checked="" type="checkbox"/> Yes – Pass   |
|          |    | <input type="checkbox"/> No – Fail   |

- ☒ 8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
- ☐ Yes – Pass  
☐ No – Fail  
☒ N/A – Rear seat

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Zuhl

Date: 11/12/04

## DATA SHEET 13

### SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 11/12/04

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Right Rear Passenger
------------------------------	----------------------

- |          |    |  |
|----------|----|--|
| <b>X</b> | 1. | Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))   |
|          |    | <input type="checkbox"/> Yes, this form is complete  |
|          |    | <input checked="" type="checkbox"/> No, go to 2  |
| <b>X</b> | 2. | Is the seat removable? (S7.4.6.1(b))   |
|          |    | <input type="checkbox"/> Yes, this form is complete  |
|          |    | <input checked="" type="checkbox"/> No, go to 3  |
| <b>X</b> | 3. | Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))  |
|          |    | <input type="checkbox"/> Yes, this form is complete  |
|          |    | <input checked="" type="checkbox"/> No, go to 4  |
| <b>X</b> | 4. | Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))  |
|          |    | <input checked="" type="checkbox"/> Yes, go to 5   |
|          |    | <input type="checkbox"/> No, this form is complete   |
| <b>X</b> | 5. | Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a)) |
|          |    | <input checked="" type="checkbox"/> Yes – Pass   |
|          |    | <input type="checkbox"/> No – Fail   |
|          |    | Identify the part(s) on top or above the seat.   |
|          |    | <input checked="" type="checkbox"/> Seat belt latch plate  |
|          |    | <input checked="" type="checkbox"/> Buckle   |
|          |    | <input checked="" type="checkbox"/> Seat belt webbing  |
| <b>X</b> | 6. | Are the remaining two seat belt parts accessible under normal conditions?  |
|          |    | <input checked="" type="checkbox"/> Yes – Pass   |
|          |    | <input type="checkbox"/> No – Fail   |
| <b>X</b> | 7. | The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)   |
|          |    | <input checked="" type="checkbox"/> Yes – Pass   |
|          |    | <input type="checkbox"/> No – Fail   |

- ☒ 8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
- ☒ Yes – Pass  
☐ No – Fail
- ☒ 10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
- ☐ Yes – Pass  
☐ No – Fail  
☒ N/A – Rear seat

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Zuhl

Date: 11/12/04

## DATA SHEET 14

### MARKING OF REFERENCE POINTS FOR VARIOUS TEST POSITIONS AND POINTS

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Eric Peschman

NHTSA No.: C50501  
 Test Date: 4/18/06

1. Driver Designated Seating Position:

- |                                     |      |  |
|-------------------------------------|------|--|
| <input checked="" type="checkbox"/> | 1.1  | Position the seat's adjustable lumbar supports so that the lumbar supports are in the lowest, retracted or deflated adjustment positions. (S16.2.10.1)   |
|                                     |      | <input checked="" type="checkbox"/> N/A – No lumbar adjustment   |
| <input checked="" type="checkbox"/> | 1.2  | Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position (S16.2.10.2)   |
|                                     |      | <input checked="" type="checkbox"/> N/A – No additional support adjustment   |
| <input checked="" type="checkbox"/> | 1.3  | Mark a point (seat cushion reference point) on the side of the seat cushion that is between 150 mm and 250 mm from the front edge of the seat cushion.   |
| <input checked="" type="checkbox"/> | 1.4  | Draw a line (seat cushion reference line) through the seat cushion reference point.  |
| <input checked="" type="checkbox"/> | 1.5  | Using only the controls that primarily move the seat in the fore-aft direction, move the seat cushion reference point to the rearmost position.  |
| <input checked="" type="checkbox"/> | 1.6  | If the seat cushion adjusts fore-aft, independent of the seat back, use only the controls that primarily move the seat cushion in the fore-aft direction to move the seat cushion reference point to the rearmost position (S16.2.10.3)  |
|                                     |      | <input checked="" type="checkbox"/> N/A – No independent fore-aft seat cushion adjustment  |
| <input checked="" type="checkbox"/> | 1.7  | Using any part of any control, other than the parts just used for fore-aft positioning, determine the range of angles of the seat cushion reference line and set the seat cushion reference line at the mid-angle.   |
| <input checked="" type="checkbox"/> |      | Maximum Angle: 2.7 Degrees Nose Down   |
| <input checked="" type="checkbox"/> |      | Minimum Angle: 2.8 Degrees Nose Up   |
| <input checked="" type="checkbox"/> |      | Mid-angle: 0.1 Degrees Nose Up   |
| <input checked="" type="checkbox"/> | 1.8  | If the seat and/or seat cushion height is adjustable, use any part of any control other than those which primarily move the seat or seat cushion fore-aft, to put the seat cushion reference point in its lowest position with the seat cushion reference line angle at the mid-angle found in 1.7.  |
|                                     |      | <input type="checkbox"/> N/A – No seat height adjustment   |
| <input checked="" type="checkbox"/> | 1.9  | Using only the controls that primarily move the seat in the fore-aft direction, verify the seat is in the rearmost position.   |
| <input checked="" type="checkbox"/> | 1.10 | Using only the controls that primarily move the seat in the fore-aft direction, mark for future reference the fore-aft seat positions. Mark each position so that there is a visual indication when the seat is at a particular position. For manual seats, move the seat forward one detent at a time and mark each detent. For power seats, mark only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost. |
| <input checked="" type="checkbox"/> | 1.11 | Use only the controls that primarily move the seat in the fore-aft direction to place the seat in the rearmost position.   |
| <input checked="" type="checkbox"/> | 1.12 | Using any controls, other than the controls that primarily move the seat and/or seat cushion in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.7.   |

- ☒ 1.13 Using only the controls that primarily move the seat and/or seat cushion in the fore-aft direction, place the seat in the mid-fore-aft position.
- ☒ 1.14 Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.7.
- ☒ 1.15 Using only the controls that change the seat in the fore-aft direction, place the seat in the foremost position.
- ☒ 1.16 Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.7.
- ☒ 1.17 Visually mark for future reference the seat back angle, if adjustable, at the manufacturer's nominal design riding position for a 50<sup>th</sup> percentile adult male in the manner specified by the manufacturer.
- ☐ N/A – No seat back angle adjustment
- ☒ Manufacturer's design seat back angle: 22.5° (9<sup>th</sup> notch)
- ☒ 1.18 Is the seat a bucket seat?
- ☒ Yes, go to 1.18.1 and skip 1.18.2
- ☐ No, go to 1.18.2 and skip 1.18.1
- 1.18.1 Bucket seats:
- ☒ Locate and mark for future reference the longitudinal centerline of the seat cushion. The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle. (S16.3.1.10)
- ☒ Record the width of the seat cushion: 525 mm
- ☒ One half the width of the seat cushion is: 262 mm
- ☒ Record the distance from the edge of the seat cushion to the seat mark: 262 mm
- 1.18.2 Bench seats:
- ☐ Locate and mark for future reference the longitudinal line on the seat cushion that marks the longitudinal vertical plane through the centerline of the steering wheel.
2. Passenger Designated Seating Position
- ☒ 2.1 Is the seat adjustable independent of the driver seating position?
- ☒ Yes, go to 2.2
- ☐ No, go to 2.18
- ☒ 2.2 Position the seat's adjustable lumbar supports so that the lumbar supports are in the lowest, retracted or deflated adjustment positions (S16.2.10.1, S20.1.9.1, S22.1.7.1)
- ☒ N/A – No lumbar adjustment
- ☒ 2.3 Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2, S20.1.9.2, S22.1.7.2)
- ☒ N/A – No additional support adjustment
- ☒ 2.4 Mark a point (seat cushion reference point) on the side of the seat cushion that is between 150 mm and 250 mm from the front edge of the seat cushion.
- ☒ 2.5 Draw a line (seat cushion reference line) through the seat cushion reference point.
- ☒ 2.6 Using only the controls that primarily move the seat in the fore-aft direction, move the seat cushion reference point to the rearmost position.

<b>X</b>	2.7	If the seat cushion adjusts fore-aft, independent of the seat back, use only the controls that primarily move the seat cushion in the fore-aft direction to move the seat cushion reference point to the rearmost position (S16.2.10.3, S20.1.9.3, S22.1.7.3)
<b>X</b>		N/A – No independent fore-aft seat cushion adjustment.
<b>X</b>	2.8	Using any part of the control, other than the parts just used for fore-aft positioning, determine the range of angles of the seat cushion reference line and set the seat cushion reference line at the mid-angle.
<b>X</b>		Maximum Angle: Zero
<b>X</b>		Minimum Angle: Zero
<b>X</b>		Mid-angle: Zero
<b>X</b>	2.9	If the seat and/or seat cushion height is adjustable, use any part of any control other than those which primarily move the seat or seat cushion fore-aft, to put the seat cushion reference point in its lowest position with the seat cushion reference line angle at the mid-range angle.
<b>X</b>		N/A – No seat height adjustment
<b>X</b>	2.10	Using only the controls that primarily move the seat and/or seat cushion in the fore-aft direction, verify the seat is in the rearmost position.
<b>X</b>	2.11	Using only the controls that primarily move the seat in the fore-aft direction, mark for future reference the fore-aft seat positions. Mark each position so that there is a visual indication when the seat is at a particular position. For manual seats, move the seat forward one detent at a time and mark each detent. For power seats, mark only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost.
<b>X</b>	2.12	Using only the controls that primarily move the seat in the fore-aft direction, place the seat in the rearmost position.
<b>X</b>	2.13	Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 2.8.
<b>X</b>		N/A – No seat height adjustment Go to 2.18
	2.14	Using only the controls that primarily move the seat in the fore-aft direction, place the seat in the mid-fore-aft position.
	2.15	Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 2.8.
	2.16	Using only the controls that change the seat in the fore-aft direction, place the seat in the foremost position.
	2.17	Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 2.8.



<input checked="" type="checkbox"/>	2.18	Visually mark for future reference the seat back angle, if adjustable, at the manufacturer's nominal design riding position for a 50 <sup>th</sup> percentile adult male in the manner specified by the manufacturer.
		<input type="checkbox"/> N/A – No seat back angle adjustment
		<input type="checkbox"/> N/A – The seat back angle adjustment is controlled by the setting of the driver seat back angle.
<input checked="" type="checkbox"/>		Manufacturer's design seat back angle: 22.5° (9 <sup>th</sup> notch)
<input checked="" type="checkbox"/>		Actual seat back angle: 22.5° (9 <sup>th</sup> notch)
<input checked="" type="checkbox"/>	2.19	Is the seat a bucket seat?
		<input checked="" type="checkbox"/> Yes, go to 2.19.1 and skip 2.19.2
		<input type="checkbox"/> No, go to 2.19.2 and skip 2.19.1
		2.19.1 Bucket seats:
		<input checked="" type="checkbox"/> Locate and mark for future reference the longitudinal centerline of the seat cushion. (S20.2.1.3, S22.2.1.3) The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle. (S20.1.10)
<input checked="" type="checkbox"/>		Record the width of the seat cushion: 530 mm
<input checked="" type="checkbox"/>		One half the width of the seat cushion is: 265 mm
		<input checked="" type="checkbox"/> Record the distance from the edge of the seat cushion to the longitudinal centerline of the seat cushion. (The vertical plane through this longitudinal centerline is Plane B for suppression.) 265 mm
		2.19.2 Bench seats:
		<input type="checkbox"/> Locate and mark for future reference the longitudinal centerline of the passenger seat cushion. The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel. (S20.2.1.3, S22.2.1.3)
		<input type="checkbox"/> Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel:
		<input type="checkbox"/> Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. (The vertical plane through this longitudinal centerline is Plane B for suppression.)
<input checked="" type="checkbox"/>	3.	Head Restraints
		<input type="checkbox"/> N/A, vehicle contains automatic head restraints
		<input type="checkbox"/> N/A, there is no head restraint adjustment
<input checked="" type="checkbox"/>	3.1	Left outboard
<input checked="" type="checkbox"/>	3.1.1	Adjust the head restraint to its lowest position. (S16.3.4.2)
<input checked="" type="checkbox"/>	3.1.2	Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible. <b>Mark</b> the foremost position.
<input checked="" type="checkbox"/>	3.1.3	Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate and <b>mark</b> a horizontal plane through the midpoint of this distance.
<input checked="" type="checkbox"/>		Vertical height of head restraint (mm): 160 mm
<input checked="" type="checkbox"/>		Mid-point height (mm): 80 mm
<input checked="" type="checkbox"/>	3.2	Right outboard
<input checked="" type="checkbox"/>	3.2.1	Adjust the head restraint to its lowest position. (S16.3.4.2)

- ☒ 3.2.2 Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible. **Mark** the foremost position.
- ☒ 3.2.3 Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate and **mark** a horizontal plane through the midpoint of this distance.
- ☒ Vertical height of head restraint (mm): 160 mm
- ☒ Mid-point height (mm): 80 mm
- ☒ 4. Steering Wheel
- ☒ 4.1 Is the steering wheel adjustable up and down and/or in and out?
- ☒ Yes, go to 4.2
- ☐ No, this form is complete
- ☒ 4.2 Find and **mark** for future reference each up and down position. Label three of the positions with the following: H for highest, M for mid-position (if there is no mid-position, label the next lowest adjustment position), and L for lowest.
- ☐ N/A, steering wheel is not adjustable up and down
- ☒ 4.3 Find and **mark** for future references each in and out position. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the next rearmost adjustment position), and R for rearmost.
- ☒ N/A, steering wheel is not adjustable in and out
- ☒ 5. Driver Low Risk Deployment
- ☐ N/A, no low risk deployment tests scheduled
- ☒ 5.1 Position the steering wheel so the front wheels are in the straight-ahead position. (S26.2.1)
- ☒ 5.2 Position any adjustable parts of the steering controls to the mid-position as determined in item 3 above. If a mid-position adjustment is not achievable, position the controls to the next lowest detent position. (S26.2.1)
- ☒ 5.3 Locate the vertical plane parallel to the vehicle longitudinal centerline through the geometric center of the opening through which the driver air bag deploys into the occupant compartment. This is referred to as "Plane E". (Check determination method below.) (S26.2.6)
- ☒ Plane E determined using manufacturer's information supplied by the COTR . (Found in Appendix D on page D-35)
- ☐ Plane E determined by test lab personnel and approved by the COTR. (Include supporting documentation in the test report.)
- |   | Ey (mm) |
|---|---------|
| "Plane E" Measurement:                    |         |
| Measured:                                 |         |
| Specified:                                |         |
| Verify Measured Equals Specified +/- 6mm: |         |
- ☒ 5.4 Locate the horizontal plane through the highest point of the air bag module cover. This is referred to as "Plane F." (Check determination method below.) (S26.2.6)
- ☒ Plane F determined using manufacturer's information supplied by the COTR . (Found in Appendix D on page D-35)

☐ Plane F determined by test lab personnel and approved by the COTR.  
(Include supporting documentation in the test report.)

	Fz (mm)
"Plane F" Measurement:	
Measured:	
Specified:	
Verify Measured Equals Specified +/- 6mm:	

☒ 6. Passenger Low Risk Deployment – Planes C and D

☒ N/A, no low risk deployment tests scheduled

☐ 6.1 Locate the horizontal plane through the geometric center of the opening through which the right front air bag deploys into the occupant compartment. This is referred to as "Plane C." (Check location method below.) (S22.4.1.3)

☐ Plane C located using manufacturer's information supplied by the COTR.  
(Include manufacturer's information in the test report.) OR

☐ Plane C located by test lab personnel and approved by the COTR.  
(Include supporting documentation in the test report.)

	Cz (mm)
"Plane C" Measurement:	
Measured:	
Specified:	
Verify Measured Equals Specified +/- 6mm:	

☐ 6.2 Locate the vertical plane parallel to the vehicle longitudinal centerline through the geometric center of the opening through which the right front air bag deploys into the occupant compartment. This is referred to as "Plane D." (Check determination method below.) (S22.4.1.2)

☐ Plane D determined using manufacturer's information supplied by the COTR.  
(Include manufacturer's information in the test report.) OR

☐ Plane D determined by test lab personnel and approved by the COTR.  
(Include supporting documentation in the test report.)

	Dy (mm)
"Plane D" Measurement:	
Measured:	
Specified:	
Verify Measured Equals Specified +/- 6mm:	

☐ 6.3 **Mark** the intersection of Planes C and D on the instrument panel.

☒ 7. 5<sup>th</sup> Female Dummy  
**Mark** a point on the chin of the dummy 40 mm below the center of the mouth. (Chin Point) (S26.2.6)

☐ 8. 6-Year-Old Dummy  
Locate and **mark** a point on the front of the dummy's chest jacket on the midsagittal plane which is 139 mm (5.5 in)  $\pm$  3 mm ( $\pm$  0.1 in) along the surface of the skin down from the top of the skin at the neck line. Designate this point as "Point 1." (S24.4.1.1)

☐ "Point 1" measurement (mm):



9. 3-Year-Old Dummy

Locate and **mark** a point on the front of the dummy's chest jacket on the midsagittal plane which is 114 mm (4.5 in)  $\pm$  3 mm ( $\pm$  0.1 in) along the surface of the skin down from the top of the skin at the neck line. Designate this point as "Point 1." (S22.4.1.1)



"Point 1" measurement (mm  $\pm$  3 mm):

REMARKS:

I certify that I have read and performed each instruction.

Signature:



Date: 4/18/06

### DATA SHEET 15 SUMMARY

Original Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section B Rear Facing CRS

NHTSA No.:	C50501	TEST DATE:	2/04/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	082

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Handle With Care 191
DATE OF MANUFACTURE:	5-26-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

#### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Handle Down	Handle Up
Belted Rear Facing	Forward	130	Suppressed	Not Done
	Middle	131	Suppressed	Not Done
	Rearward	127	Suppressed	Not Done
Unbelted Rear Facing	Forward	N/A	Suppressed	Not Done
	Middle	N/A	Suppressed	Not Done
	Rearward	N/A	Suppressed	Not Done
Unbelted Forward Facing	Forward	N/A	Suppressed	Not Done
	Middle	N/A	Suppressed	Not Done
	Rearward	N/A	Suppressed	Not Done

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN547)

## DATA SHEET 15 SUMMARY

Original Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section B Rear Facing CRS

NHTSA No.:	C50501	TEST DATE:	2/04/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	082

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	First Choice 204
DATE OF MANUFACTURE:	6-20-2000

Base: ☐ On ☐ Off ☒ N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Handle Down	Handle Up
Belted Rear Facing	Forward 8 *	133	Not Done	Suppressed
	Middle	130	Not Done	Suppressed
	Rearward	127	Not Done	Suppressed
Unbelted Rear Facing	Forward 11 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed
Unbelted Forward Facing	Forward 6 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN081)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## DATA SHEET 15 SUMMARY

Original Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section B Rear Facing CRS

NHTSA No.:	C50501	TEST DATE:	2/04/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	082

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	Infant 8457
DATE OF MANUFACTURE:	8-31-2000

Base:   X   On    Off    N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Handle Down	Handle Up
Belted Rear Facing	Forward 8 *	129	Not Done	Suppressed
	Middle	131	Not Done	Suppressed
	Rearward	130	Suppressed	Not Done
Unbelted Rear Facing	Forward 10 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Suppressed	Not Done
Unbelted Forward Facing	Forward 8 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## DATA SHEET 15 SUMMARY

Original Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section B Rear Facing CRS

NHTSA No.:	C50501	TEST DATE:	2/04/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	082

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	Infant 8457
DATE OF MANUFACTURE:	8-31-2000

Base: ☐ On ☒ Off ☐ N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Handle Down	Handle Up
Belted Rear Facing	Forward 5 *	131	Not Done	Suppressed
	Middle	130	Suppressed	Not Done
	Rearward	131	Suppressed	Not Done
Unbelted Rear Facing	Forward 7 *	N/A	Not Done	Suppressed
	Middle	N/A	Suppressed	Not Done
	Rearward	N/A	Suppressed	Not Done
Unbelted Forward Facing	Forward 8 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the 5<sup>th</sup> Forward position. (SN081)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)



## DATA SHEET 15 SUMMARY

Original Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	2/4/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	082

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Roundabout 161
DATE OF MANUFACTURE:	7-21-2000

Base: \_\_On \_\_Off X N/A-Constraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket was not used in the suppression testing because it did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing	Forward	129	Suppressed
	Middle	131	Suppressed
	Rearward	127	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	133	Suppressed
	Middle	127	Suppressed
	Rearward	127	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN547)

## DATA SHEET 15 SUMMARY

Original Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	2/04/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	082

CHILD RESTRAINT NAME:	Century
CHILD RESTRAINT MODEL:	Encore 4612
DATE OF MANUFACTURE:	8-16-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket was not used in the suppression testing because it did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing	Forward	133	Suppressed
	Middle	129	Suppressed
	Rearward	129	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	131	Suppressed
	Middle	128	Suppressed
	Rearward	128	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN547)

## DATA SHEET 15 SUMMARY

Original Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	2/04/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	082

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	Medallion 254
DATE OF MANUFACTURE:	6-1-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket was not used in the suppression testing because it did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing	Forward	133	Suppressed
	Middle	130	Suppressed
	Rearward	130	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	127	Suppressed
	Middle	129	Suppressed
	Rearward	130	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Forward position. (SN547)

## DATA SHEET 16 SUMMARY

Original Suppression Test Using Newborn Infant Dummy (Part 572, Subpart K)  
Section A Car Bed

NHTSA No.:	C50501	TEST DATE:	2/07/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	Newborn Infant	DUMMY SERIAL NO.:	003

CAR BED NAME:	Cosco
CAR BED MODEL:	Dream Ride 02-719
DATE OF MANUFACTURE:	6-16-2000

Base: ☐ On ☐ Off ☒ N/A-Restraint does not have a removable base  
(A car bed with a removable base shall be treated as two separate models, i.e. this form and test procedure will be completed with the base on and then repeated on a new form with the base off.

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Handle Down	Handle Up
Belted	Forward 7 *	Suppressed	Not Done
	Middle	Suppressed	Not Done
	Rearward	Suppressed	Not Done

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN511)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

The CRS would not fit in the Forward Seat Slide position due to interference with the transmission shifter.

The CRS was orientated at 30° to fit in the Rearward Seat Slide position due to interference with the center console.

### DATA SHEET 17 SUMMARY

Original Suppression Test Using 3 Year Old Dummy And Booster Seats (Part 572, Subpart P)  
Section D Forward Facing Belt Positioning Booster

NHTSA No.:	C50501	TEST DATE:	2/07/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

BOOSTER SEAT NAME:	Century
BOOSTER SEAT MODEL:	Next Step 4920
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing Without Harness	Forward	11	Suppressed
	Middle	17	Suppressed
	Rearward	12	Suppressed
Belted Forward Facing Cinched With Harness	Forward	133	Suppressed
	Middle	127	Suppressed
	Rearward	129	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN081)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## DATA SHEET 17 SUMMARY

Original Suppression Test Using 3 Year Old Dummy And Booster Seats (Part 572, Subpart P)  
Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	2/07/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

BOOSTER SEAT NAME:	Cosco
BOOSTER SEAT MODEL:	High Back Booster 02-442
DATE OF MANUFACTURE:	4-28-2000

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing Without Harness	Forward 3 *	17	Suppressed
	Middle	11	Suppressed
	Rearward	13	Suppressed
Belted Forward Facing Cinched With Harness	Forward 6 *	130	Suppressed
	Middle	129	Suppressed
	Rearward	132	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN081)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## DATA SHEET 18 SUMMARY

Original Suppression Test Using 3 Year Old Dummy And Convertible Restraints  
(Part 572, Subpart P)

Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	2/04/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Roundabout 161
DATE OF MANUFACTURE:	7-21-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward 8 *	128	Suppressed
	Middle	129	Suppressed
	Rearward	133	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN547)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

### DATA SHEET 18 SUMMARY

Original Suppression Test Using 3 Year Old Dummy And Convertible Restraints  
(Part 572, Subpart P)

Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	2/04/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

CHILD RESTRAINT NAME:	Century
CHILD RESTRAINT MODEL:	Encore 4612
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°

Tested seat back angle: 22.5°

Manufacturer's specified anchorage position: 2<sup>nd</sup> Down

Tested anchorage position: 2<sup>nd</sup> Down

#### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	128	Suppressed
	Middle	127	Suppressed
	Rearward	133	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN547)



### DATA SHEET 18 SUMMARY

Original Suppression Test Using 3 Year Old Dummy And Convertible Restraints  
(Part 572, Subpart P)

Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	2/04/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	Medallion 254
DATE OF MANUFACTURE:	6-1-2000

Manufacturer's design seat back angle: 22.5°

Tested seat back angle: 22.5°

Manufacturer's specified anchorage position: 2<sup>nd</sup> Down

Tested anchorage position: 2<sup>nd</sup> Down

#### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	130	Suppressed
	Middle	131	Suppressed
	Rearward	127	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Forward position. (SN547)

## DATA SHEET 19 SUMMARY

Original Suppression Test Using An Unbelted 3 Year Old Dummy (Part 572, Subpart P)  
No CRS

NHTSA No.:	C50501	TEST DATE:	2/07/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

### Test Summary

Position	Seat Slide	Seat Back Angle	Result
Position 1 Sitting on seat with back against seat back	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 2 Sitting on seat with back against reclined seat back	Forward	46.6	Suppressed
	Middle	46.6	Suppressed
	Rearward	46.6	Suppressed
Position 3 Sitting on seat with back not against seat back	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 4 Sitting on seat edge, spine vertical, hands at dummy's sides	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 5 Standing on seat, facing forward	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 6 Kneeling on seat, facing forward	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 7 Kneeling on seat, facing rearward	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 8 Lying on seat. (Three designated seating positions only)	Forward	N/A	N/A
	Middle	N/A	N/A
	Rearward	N/A	N/A

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN511)

## DATA SHEET 20 SUMMARY

Original Suppression Test Using 6 Year Old Dummy And Booster Seats (Part 572, Subpart N)  
Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	2/07/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Century
BOOSTER SEAT MODEL:	Next Step 4920
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	14	Suppressed
	Middle	15	Suppressed
	Rearward	12	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN511)

## DATA SHEET 20 SUMMARY

Original Suppression Test Using 6 Year Old Dummy And Booster Seats (Part 572, Subpart N)  
Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	2/07/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Cosco
BOOSTER SEAT MODEL:	High Back Booster 02-442
DATE OF MANUFACTURE:	4-28-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	17	Suppressed
	Middle	15	Suppressed
	Rearward	13	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN511)

## DATA SHEET 20 SUMMARY

Original Suppression Test Using 6 Year Old Dummy And Booster Seats (Part 572, Subpart N)  
Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	2/07/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Evenflo
BOOSTER SEAT MODEL:	Right Fit 245
DATE OF MANUFACTURE:	6-26-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	15	Suppressed
	Middle	14	Suppressed
	Rearward	18	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Forward position. (SN511)

## DATA SHEET 21 SUMMARY

Original Suppression Test Using An Unbelted 6 Year Old Dummy (Part 572, Subpart N)  
No CRS

NHTSA No.:	C50501	TEST DATE:	2/07/05
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

### Test Summary

Position	Seat Slide	Seat Back Angle	Result
Position 1 Sitting on seat with back against seat back	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 2 Sitting on seat with back against reclined seat back	Forward	46.6	Suppressed
	Middle	46.6	Suppressed
	Rearward	46.6	Suppressed
Position 3 Sitting on seat edge, spine vertical, hands at dummy's sides	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 4 Sitting on seat with back against seat back then leaning on the door	Forward 9 *	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN511)

\* The ATD would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## **Supplemental Suppression Test Overview**

The following suppression tests were performed to investigate complaints that passenger air bags were turned off by the suppression system for certain adults.

## DATA SHEET 15 SUMMARY

Supplemental Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	4/11/05
LABORATORY:	MGA	TECHNICIANS:	AJH
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	082

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Roundabout 161
DATE OF MANUFACTURE:	7-21-2000

Base: ☐ On ☐ Off ☒ N/A-Constraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket was not used in the suppression testing because it did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing	Forward	129	Suppressed
	Middle	131	Suppressed
	Rearward	127	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	133	Not Suppressed
	Middle	127	Not Suppressed
	Rearward	127	Not Suppressed
Unbelted Rear Facing	Forward	N/A	Not Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Rearward position. (Human Identification Code 013; 49.4 kg 149.9 cm)



### DATA SHEET 17 SUMMARY

Supplemental Suppression Test Using 3 Year Old Dummy And Booster Seats  
(Part 572, Subpart P)

Section D Forward Facing Belt Positioning Booster

NHTSA No.:	C50501	TEST DATE:	4/11/05
LABORATORY:	MGA	TECHNICIANS:	AJH
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

BOOSTER SEAT NAME:	Century
BOOSTER SEAT MODEL:	Next Step 4920
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing Without Harness	Forward	15	Suppressed
	Middle	17	Suppressed
	Rearward	11	Suppressed
Belted Forward Facing Cinched With Harness	Forward	129	Suppressed
	Middle	132	Suppressed
	Rearward	132	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN081)

## DATA SHEET 20 SUMMARY

Supplemental Suppression Test Using 6 Year Old Dummy And Booster Seats  
(Part 572, Subpart N)

Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	4/11/05
LABORATORY:	MGA	TECHNICIANS:	AJH
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Century
BOOSTER SEAT MODEL:	Next Step 4920
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	9	Not Suppressed
	Middle	14	Not Suppressed
	Rearward	16	Not Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Forward position. (Human Identification Code 013; 49.4 kg 149.9 cm)

## DATA SHEET 20 SUMMARY

Supplemental Suppression Test Using 6 Year Old Dummy And Booster Seats  
(Part 572, Subpart N)

Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	4/11/05
LABORATORY:	MGA	TECHNICIANS:	AJH
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Cosco
BOOSTER SEAT MODEL:	High Back Booster 02-442
DATE OF MANUFACTURE:	4-28-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	18	Suppressed
	Middle	12	Suppressed
	Rearward	13	Suppressed

Successful Unbelted Representative Female Human Reactivation was performed with the seat in the Forward position. (Human Identification Code 030; 56.7 kg 165.1 cm)

## **Pre-Recall Status Check Suppression Test Overview**

This vehicle was going to a dealer for a recall remedy for the occupant classification system to eliminate locking of the air bag on/off decision. The following suppression tests were performed to confirm the current status of the system.

## DATA SHEET 15 SUMMARY

Pre-Recall Status Check Suppression Test Using 12-month-old CRABI Dummy  
(Part 572, Subpart R)

Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	1/12/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Roundabout 161
DATE OF MANUFACTURE:	7-21-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°

Tested seat back angle: 22.5°

Manufacturer's specified anchorage position: 2<sup>nd</sup> Down

Tested anchorage position: 2<sup>nd</sup> Down

A blanket was not used in the suppression testing because it did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing	Forward	130	Suppressed
	Middle	127	Suppressed
	Rearward	133	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	128	Suppressed
	Middle	128	Suppressed
	Rearward	133	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted Representative Female Human Reactivation was performed with the seat in the Rearward position. (Human Identification Code 031; 54.4 kg 170.2 cm)

### DATA SHEET 17 SUMMARY

Pre-Recall Status Check Suppression Test Using 3 Year Old Dummy And Booster Seats  
(Part 572, Subpart P)

Section D Forward Facing Belt Positioning Booster

NHTSA No.:	C50501	TEST DATE:	1/12/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

BOOSTER SEAT NAME:	Century
BOOSTER SEAT MODEL:	Next Step 4920
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing Without Harness	Forward	12	Suppressed
	Middle	13	Suppressed
	Rearward	17	Suppressed
Belted Forward Facing Cinched With Harness	Forward	127	Suppressed
	Middle	133	Suppressed
	Rearward	133	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN081)

## DATA SHEET 20 SUMMARY

Pre-Recall Status Check Suppression Test Using 6 Year Old Dummy And Booster Seats  
(Part 572, Subpart N)

Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	1/12/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Century
BOOSTER SEAT MODEL:	Next Step 4920
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	13	Suppressed
	Middle	15	Suppressed
	Rearward	10	Suppressed

Successful Unbelted Representative Female Human Reactivation was performed with the seat in the Forward position. (Human Identification Code 031; 54.4 kg 170.2 cm)

## DATA SHEET 20 SUMMARY

Pre-Recall Status Check Suppression Test Using 6 Year Old Dummy And Booster Seats  
(Part 572, Subpart N)

Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	1/12/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Cosco
BOOSTER SEAT MODEL:	High Back Booster 02-442
DATE OF MANUFACTURE:	4-28-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	17	Suppressed
	Middle	15	Suppressed
	Rearward	13	Suppressed

Unsuccessful Unbelted Representative Female Human Reactivation was performed with the seat in the Forward position. (Human Identification Code 030; 56.7 kg 165.1 cm) Reactivation also failed at the Middle and Rearward seat positions.



## **Post Recall Suppression Test Overview**

The following suppression tests were performed after the recall remedy was performed on the vehicle to confirm the status of the system and that the air bag on/off decision was no longer locked.

## DATA SHEET 15 SUMMARY

### Post Recall Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R) Section B Rear Facing CRS

NHTSA No.:	C50501	TEST DATE:	1/26/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Handle With Care 191
DATE OF MANUFACTURE:	5-26-2000

Base: ☐ On ☐ Off ☒ N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Handle Down	Handle Up
Belted Rear Facing	Forward	130	Suppressed	Not Done
	Middle	131	Suppressed	Not Done
	Rearward	127	Suppressed	Not Done
Unbelted Rear Facing	Forward	N/A	Suppressed	Not Done
	Middle	N/A	Suppressed	Not Done
	Rearward	N/A	Suppressed	Not Done
Unbelted Forward Facing	Forward	N/A	Suppressed	Not Done
	Middle	N/A	Suppressed	Not Done
	Rearward	N/A	Suppressed	Not Done

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN081)

## DATA SHEET 15 SUMMARY

Post Recall Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section B Rear Facing CRS

NHTSA No.:	C50501	TEST DATE:	1/26/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	First Choice 204
DATE OF MANUFACTURE:	6-20-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Handle Down	Handle Up
Belted Rear Facing	Forward 8 *	133	Not Done	Suppressed
	Middle	130	Not Done	Suppressed
	Rearward	127	Suppressed	Not Done
Unbelted Rear Facing	Forward 10 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Suppressed	Not Done
Unbelted Forward Facing	Forward 6 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN081)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## DATA SHEET 15 SUMMARY

### Post Recall Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R) Section B Rear Facing CRS

NHTSA No.:	C50501	TEST DATE:	1/26/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	Infant 8457
DATE OF MANUFACTURE:	8-31-2000

Base:   X   On    Off    N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Handle Down	Handle Up
Belted Rear Facing	Forward 8 *	131	Not Done	Suppressed
	Middle	127	Not Done	Suppressed
	Rearward	127	Suppressed	Not Done
Unbelted Rear Facing	Forward 10 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Suppressed	Not Done
Unbelted Forward Facing	Forward 8 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## DATA SHEET 15 SUMMARY

Post Recall Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section B Rear Facing CRS

NHTSA No.:	C50501	TEST DATE:	1/26/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	Infant 8457
DATE OF MANUFACTURE:	8-31-2000

Base: ☐ On ☒ Off ☐ N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Handle Down	Handle Up
Belted Rear Facing	Forward 5 *	131	Not Done	Suppressed
	Middle	130	Not Done	Suppressed
	Rearward	131	Suppressed	Not Done
Unbelted Rear Facing	Forward 7 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Suppressed	Not Done
Unbelted Forward Facing	Forward 8 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the 5<sup>th</sup> Forward position. (SN081)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## DATA SHEET 15 SUMMARY

Post Recall Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	1/23/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Roundabout 161
DATE OF MANUFACTURE:	7-21-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket was not used in the suppression testing because it did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing	Forward	127	Suppressed
	Middle	131	Suppressed
	Rearward	133	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	132	Suppressed
	Middle	127	Suppressed
	Rearward	129	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN081)

### DATA SHEET 15 SUMMARY

Post Recall Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	1/24/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Century
CHILD RESTRAINT MODEL:	Encore 4612
DATE OF MANUFACTURE:	8-16-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

A blanket was not used in the suppression testing because it did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing	Forward	128	Suppressed
	Middle	127	Suppressed
	Rearward	131	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	130	Suppressed
	Middle	130	Suppressed
	Rearward	133	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN081)

## DATA SHEET 15 SUMMARY

Post Recall Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	1/24/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	Medallion 254
DATE OF MANUFACTURE:	6-1-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket was not used in the suppression testing because it did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing	Forward	131	Suppressed
	Middle	129	Suppressed
	Rearward	128	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	131	Suppressed
	Middle	133	Suppressed
	Rearward	128	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Forward position. (SN081)



## DATA SHEET 16 SUMMARY

### Post Recall Suppression Test Using Newborn Infant Dummy (Part 572, Subpart K) Section A Car Bed

NHTSA No.:	C50501	TEST DATE:	1/25/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	Newborn Infant	DUMMY SERIAL NO.:	003

CAR BED NAME:	Cosco
CAR BED MODEL:	Dream Ride 02-719
DATE OF MANUFACTURE:	6-16-2000

Base: ☐ On ☐ Off ☒ N/A-Constraint does not have a removable base  
(A car bed with a removable base shall be treated as two separate models, i.e. this form and test procedure will be completed with the base on and then repeated on a new form with the base off.

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Handle Down	Handle Up
Belted	Forward 7 *	Suppressed	Not Done
	Middle	Suppressed	Not Done
	Rearward	Suppressed	Not Done

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the 7<sup>th</sup> Forward position. (SN081)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

The CRS would not fit in the Forward Seat Slide position due to interference with the transmission shifter.

The CRS was orientated at 30° to fit in the Rearward Seat Slide position due to interference with the center console.

### DATA SHEET 17 SUMMARY

Post Recall Suppression Test Using 3 Year Old Dummy And Booster Seats  
(Part 572, Subpart P)

Section D Forward Facing Belt Positioning Booster

NHTSA No.:	C50501	TEST DATE:	1/26/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

BOOSTER SEAT NAME:	Century
BOOSTER SEAT MODEL:	Next Step 4920
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

#### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing Without Harness	Forward	10	Suppressed
	Middle	15	Suppressed
	Rearward	17	Suppressed
Belted Forward Facing Cinched With Harness	Forward	131	Suppressed
	Middle	127	Suppressed
	Rearward	133	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN081)

## DATA SHEET 17 SUMMARY

Post Recall Suppression Test Using 3 Year Old Dummy And Booster Seats  
(Part 572, Subpart P)

Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	1/26/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

BOOSTER SEAT NAME:	Cosco
BOOSTER SEAT MODEL:	High Back Booster 02-442
DATE OF MANUFACTURE:	4-28-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing Without Harness	Forward 3 *	14	Suppressed
	Middle	18	Suppressed
	Rearward	13	Suppressed
Belted Forward Facing Cinched With Harness	Forward 6 *	130	Suppressed
	Middle	133	Suppressed
	Rearward	131	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN081)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

### DATA SHEET 18 SUMMARY

Post Recall Suppression Test Using 3 Year Old Dummy And Convertible Restraints  
(Part 572, Subpart P)

Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	1/24/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Roundabout 161
DATE OF MANUFACTURE:	7-21-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

#### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	127	Suppressed
	Middle	130	Suppressed
	Rearward	132	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN081)

### DATA SHEET 18 SUMMARY

Post Recall Suppression Test Using 3 Year Old Dummy And Convertible Restraints  
(Part 572, Subpart P)

Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	1/25/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

CHILD RESTRAINT NAME:	Century
CHILD RESTRAINT MODEL:	Encore 4612
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

#### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	129	Suppressed
	Middle	129	Suppressed
	Rearward	131	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN081)

### DATA SHEET 18 SUMMARY

Post Recall Suppression Test Using 3 Year Old Dummy And Convertible Restraints  
(Part 572, Subpart P)

Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	1/25/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	Medallion 254
DATE OF MANUFACTURE:	6-1-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

#### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	133	Suppressed
	Middle	127	Suppressed
	Rearward	131	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Forward position. (SN081)

## DATA SHEET 19 SUMMARY

Post Recall Suppression Test Using An Unbelted 3 Year Old Dummy (Part 572, Subpart P)  
No CRS

NHTSA No.:	C50501	TEST DATE:	1/26/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

### Test Summary

Position	Seat Slide	Seat Back Angle	Result
Position 1 Sitting on seat with back against seat back	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 2 Sitting on seat with back against reclined seat back	Forward	46.6	Suppressed
	Middle	46.6	Suppressed
	Rearward	46.6	Suppressed
Position 3 Sitting on seat with back not against seat back	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 4 Sitting on seat edge, spine vertical, hands at dummy's sides	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 5 Standing on seat, facing forward	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 6 Kneeling on seat, facing forward	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 7 Kneeling on seat, facing rearward	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 8 Lying on seat. (Three designated seating positions only)	Forward	N/A	N/A
	Middle	N/A	N/A
	Rearward	N/A	N/A

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN081)

## DATA SHEET 20 SUMMARY

Post Recall Suppression Test Using 6 Year Old Dummy And Booster Seats  
(Part 572, Subpart N)

Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	1/26/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Century
BOOSTER SEAT MODEL:	Next Step 4920
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	9	Suppressed
	Middle	14	Suppressed
	Rearward	9	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN081)



## DATA SHEET 20 SUMMARY

Post Recall Suppression Test Using 6 Year Old Dummy And Booster Seats  
(Part 572, Subpart N)

Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	1/26/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Cosco
BOOSTER SEAT MODEL:	High Back Booster 02-442
DATE OF MANUFACTURE:	4-28-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	14	Suppressed
	Middle	15	Suppressed
	Rearward	17	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN081)

## DATA SHEET 20 SUMMARY

Post Recall Suppression Test Using 6 Year Old Dummy And Booster Seats  
(Part 572, Subpart N)

Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	1/26/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Evenflo
BOOSTER SEAT MODEL:	Right Fit 245
DATE OF MANUFACTURE:	6-26-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	11	Suppressed
	Middle	12	Suppressed
	Rearward	17	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Forward position. (SN081)

## DATA SHEET 21 SUMMARY

Post Recall Suppression Test Using An Unbelted 6 Year Old Dummy (Part 572, Subpart N)  
No CRS

NHTSA No.:	C50501	TEST DATE:	1/26/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

### Test Summary

Position	Seat Slide	Seat Back Angle	Result
Position 1 Sitting on seat with back against seat back	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 2 Sitting on seat with back against reclined seat back	Forward	46.6	Suppressed
	Middle	46.6	Suppressed
	Rearward	46.6	Suppressed
Position 3 Sitting on seat edge, spine vertical, hands at dummy's sides	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 4 Sitting on seat with back against seat back then leaning on the door	Forward 9 *	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN081)

\* The ATD would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Forward, Middle, and Rearward position. (Human Identification Code 013; 49.4 kg 149.9 cm)

Unsuccessful Unbelted Representative Female Human Reactivation was performed with the seat in the Forward position. (Human Identification Code 030; 56.7 kg 165.1 cm) Reactivation passed at the Rearward seat position. The human was outside the weight and height specifications of 46.7 to 51.25 kg and 139.7 to 150 cm. A larger size occupant was used because of complaints that the OCS system was not always activating the passenger air bag for occupants outside this range.

Successful Unbelted Representative Female Human Reactivation was performed with the seat in the Forward, and Rearward position. (Human Identification Code 031; 54.4 kg 170.2 cm)

## **Post TSB Suppression Test Overview**

The following suppression tests were performed after the technical service bulletin changes were made to the vehicle to confirm the status of the system. The technical service bulletin adjusted the software to ensure the air bag was activated for certain adults.

### DATA SHEET 15 SUMMARY

Post TSB Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section B Rear Facing CRS

NHTSA No.:	C50501	TEST DATE:	3/06/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Handle With Care 191
DATE OF MANUFACTURE:	5-26-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

#### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Handle Down	Handle Up
Belted Rear Facing	Forward	130	Suppressed	Not Done
	Middle	129	Suppressed	Not Done
	Rearward	128	Suppressed	Not Done
Unbelted Rear Facing	Forward	N/A	Suppressed	Not Done
	Middle	N/A	Suppressed	Not Done
	Rearward	N/A	Suppressed	Not Done
Unbelted Forward Facing	Forward	N/A	Suppressed	Not Done
	Middle	N/A	Suppressed	Not Done
	Rearward	N/A	Suppressed	Not Done

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN081)

## DATA SHEET 15 SUMMARY

Post TSB Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section B Rear Facing CRS

NHTSA No.:	C50501	TEST DATE:	3/06/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	First Choice 204
DATE OF MANUFACTURE:	6-20-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Handle Down	Handle Up
Belted Rear Facing	Forward 8 *	133	Not Done	Suppressed
	Middle	130	Not Done	Suppressed
	Rearward	127	Not Done	Suppressed
Unbelted Rear Facing	Forward 11 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed
Unbelted Forward Facing	Forward 6 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN081)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## DATA SHEET 15 SUMMARY

Post TSB Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section B Rear Facing CRS

NHTSA No.:	C50501	TEST DATE:	3/06/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	Infant 8457
DATE OF MANUFACTURE:	8-31-2000

Base:   X   On    Off    N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Handle Down	Handle Up
Belted Rear Facing	Forward 8 *	133	Not Done	Suppressed
	Middle	131	Not Done	Suppressed
	Rearward	129	Not Done	Suppressed
Unbelted Rear Facing	Forward 10 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed
Unbelted Forward Facing	Forward 8 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## DATA SHEET 15 SUMMARY

Post TSB Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section B Rear Facing CRS

NHTSA No.:	C50501	TEST DATE:	3/06/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	Infant 8457
DATE OF MANUFACTURE:	8-31-2000

Base: \_\_On X Off \_\_N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Handle Down	Handle Up
Belted Rear Facing	Forward 5 *	129	Not Done	Suppressed
	Middle	128	Not Done	Suppressed
	Rearward	129	Not Done	Suppressed
Unbelted Rear Facing	Forward 7 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed
Unbelted Forward Facing	Forward 8 *	N/A	Not Done	Suppressed
	Middle	N/A	Not Done	Suppressed
	Rearward	N/A	Not Done	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the 5<sup>th</sup> Rearward position. (SN081)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)



## DATA SHEET 15 SUMMARY

Post TSB Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	3/06/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Roundabout 161
DATE OF MANUFACTURE:	7-21-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket was not used in the suppression testing because it did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing	Forward	131	Suppressed
	Middle	129	Suppressed
	Rearward	130	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	128	Suppressed
	Middle	130	Suppressed
	Rearward	129	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN081)

## DATA SHEET 15 SUMMARY

Post TSB Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Century
CHILD RESTRAINT MODEL:	Encore 4612
DATE OF MANUFACTURE:	8-16-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket was not used in the suppression testing because it did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing	Forward	133	Suppressed
	Middle	128	Suppressed
	Rearward	130	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	132	Suppressed
	Middle	128	Suppressed
	Rearward	132	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Forward position. (Human Identification Code 032; 50.3 kg 149.9 cm)

## DATA SHEET 15 SUMMARY

Post TSB Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)  
Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	083

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	Medallion 254
DATE OF MANUFACTURE:	6-1-2000

Base: \_\_On \_\_Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
 Tested anchorage position: 2<sup>nd</sup> Down

A blanket was not used in the suppression testing because it did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing	Forward	133	Suppressed
	Middle	131	Suppressed
	Rearward	130	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	127	Suppressed
	Middle	128	Suppressed
	Rearward	129	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Middle position. (Human Identification Code 032; 50.3 kg 149.9 cm)

## DATA SHEET 16 SUMMARY

### Post TSB Suppression Test Using Newborn Infant Dummy (Part 572, Subpart K) Section A Car Bed

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	Newborn Infant	DUMMY SERIAL NO.:	003

CAR BED NAME:	Cosco
CAR BED MODEL:	Dream Ride 02-719
DATE OF MANUFACTURE:	6-16-2000

Base: ☐ On ☐ Off ☒ N/A-Constraint does not have a removable base  
(A car bed with a removable base shall be treated as two separate models, i.e. this form and test procedure will be completed with the base on and then repeated on a new form with the base off.

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

### Test Summary

Seat Belt	Seat Slide	Handle Down	Handle Up
Belted	Forward 7 *	Suppressed	Not Done
	Middle	Suppressed	Not Done
	Rearward	Suppressed	Not Done

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN081)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

The CRS would not fit in the Forward Seat Slide position due to interference with the transmission shifter.

The CRS was orientated at 30° to fit in the Rearward Seat Slide position due to interference with the center console.

## DATA SHEET 17 SUMMARY

Post TSB Suppression Test Using 3 Year Old Dummy And Booster Seats (Part 572, Subpart P)  
Section D Forward Facing Belt Positioning Booster

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

BOOSTER SEAT NAME:	Century
BOOSTER SEAT MODEL:	Next Step 4920
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing Without Harness	Forward 2 *	12	Suppressed
	Middle	16	Suppressed
	Rearward	15	Suppressed
Belted Forward Facing Cinched With Harness	Forward 1 *	129	Suppressed
	Middle	127	Suppressed
	Rearward	131	Suppressed

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Rearward position. (Human Identification Code 032; 50.3 kg 149.9 cm)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## DATA SHEET 17 SUMMARY

Post TSB Suppression Test Using 3 Year Old Dummy And Booster Seats (Part 572, Subpart P)  
Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

BOOSTER SEAT NAME:	Cosco
BOOSTER SEAT MODEL:	High Back Booster 02-442
DATE OF MANUFACTURE:	4-28-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	No Blanket
Belted Forward Facing Without Harness	Forward 3 *	17	Suppressed
	Middle	11	Suppressed
	Rearward	13	Suppressed
Belted Forward Facing Cinched With Harness	Forward 6 *	130	Suppressed
	Middle	129	Suppressed
	Rearward	132	Suppressed

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Middle position. (Human Identification Code 037; 46.7 kg 148.6 cm)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## DATA SHEET 18 SUMMARY

Post TSB Suppression Test Using 3 Year Old Dummy And Convertible Restraints  
(Part 572, Subpart P)

Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Roundabout 161
DATE OF MANUFACTURE:	7-21-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward 9 *	133	Suppressed
	Middle	130	Suppressed
	Rearward	128	Suppressed

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Rearward position. (Human Identification Code 032; 50.3 kg 149.9 cm)

\* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

## DATA SHEET 18 SUMMARY

Post TSB Suppression Test Using 3 Year Old Dummy And Convertible Restraints  
(Part 572, Subpart P)

Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

CHILD RESTRAINT NAME:	Century
CHILD RESTRAINT MODEL:	Encore 4612
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	127	Suppressed
	Middle	131	Suppressed
	Rearward	128	Suppressed

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Forward position. (Human Identification Code 032; 50.3 kg 149.9 cm)



### DATA SHEET 18 SUMMARY

Post TSB Suppression Test Using 3 Year Old Dummy And Convertible Restraints  
(Part 572, Subpart P)

Section C Forward Facing Convertible CRS

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	Medallion 254
DATE OF MANUFACTURE:	6-1-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

#### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	132	Suppressed
	Middle	128	Suppressed
	Rearward	130	Suppressed

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Middle position. (Human Identification Code 032; 50.3 kg 149.9 cm)

## DATA SHEET 19 SUMMARY

Post TSB Suppression Test Using An Unbelted 3 Year Old Dummy (Part 572, Subpart P)  
No CRS

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	031

### Test Summary

Position	Seat Slide	Seat Back Angle	Result
Position 1 Sitting on seat with back against seat back	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 2 Sitting on seat with back against reclined seat back	Forward	46.6	Suppressed
	Middle	46.6	Suppressed
	Rearward	46.6	Suppressed
Position 3 Sitting on seat with back not against seat back	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 4 Sitting on seat edge, spine vertical, hands at dummy's sides	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 5 Standing on seat, facing forward	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 6 Kneeling on seat, facing forward	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 7 Kneeling on seat, facing rearward	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 8 Lying on seat. (Three designated seating positions only)	Forward	N/A	N/A
	Middle	N/A	N/A
	Rearward	N/A	N/A

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Forward position. (Human Identification Code 036; 46.7 kg 149.9 cm)

## DATA SHEET 20 SUMMARY

Post TSB Suppression Test Using 6 Year Old Dummy And Booster Seats (Part 572, Subpart N)  
Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Century
BOOSTER SEAT MODEL:	Next Step 4920
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	13	Suppressed
	Middle	14	Suppressed
	Rearward	11	Suppressed

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Forward position. (Human Identification Code 037; 46.7 kg 148.6 cm)

## DATA SHEET 20 SUMMARY

Post TSB Suppression Test Using 6 Year Old Dummy And Booster Seats (Part 572, Subpart N)  
Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Cosco
BOOSTER SEAT MODEL:	High Back Booster 02-442
DATE OF MANUFACTURE:	4-28-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	17	Suppressed
	Middle	14	Suppressed
	Rearward	17	Suppressed

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Middle position. (Human Identification Code 037; 46.7 kg 148.6 cm)

## DATA SHEET 20 SUMMARY

Post TSB Suppression Test Using 6 Year Old Dummy And Booster Seats (Part 572, Subpart N)  
Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

BOOSTER SEAT NAME:	Evenflo
BOOSTER SEAT MODEL:	Right Fit 245
DATE OF MANUFACTURE:	6-26-2000

Manufacturer's design seat back angle: 22.5°  
Tested seat back angle: 22.5°  
Manufacturer's specified anchorage position: 2<sup>nd</sup> Down  
Tested anchorage position: 2<sup>nd</sup> Down

### Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	16	Suppressed
	Middle	10	Suppressed
	Rearward	12	Suppressed

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Rearward position. (Human Identification Code 037; 46.7 kg 148.6 cm)

## DATA SHEET 21 SUMMARY

Post TSB Suppression Test Using An Unbelted 6 Year Old Dummy (Part 572, Subpart N)  
No CRS

NHTSA No.:	C50501	TEST DATE:	3/08/06
LABORATORY:	MGA	TECHNICIANS:	JL
DUMMY TYPE:	6 Year Old	DUMMY SERIAL NO.:	153

### Test Summary

Position	Seat Slide	Seat Back Angle	Result
Position 1 Sitting on seat with back against seat back	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 2 Sitting on seat with back against reclined seat back	Forward	46.6	Suppressed
	Middle	46.6	Suppressed
	Rearward	46.6	Suppressed
Position 3 Sitting on seat edge, spine vertical, hands at dummy's sides	Forward	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed
Position 4 Sitting on seat with back against seat back then leaning on the door	Forward 9 *	22.5	Suppressed
	Middle	22.5	Suppressed
	Rearward	22.5	Suppressed

Successful Unbelted 5<sup>th</sup> percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN081)

\* The ATD would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Forward, Middle, and Rearward position. (Human Identification Code 032; 50.3 kg 149.9 cm)

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Forward, Middle, and Rearward position. (Human Identification Code 037; 46.7 kg 148.6 cm)

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Forward, Middle, and Rearward position. (Human Identification Code 013; 49.4 kg 149.9 cm)

Successful Unbelted 5<sup>th</sup> Percentile Female Human Reactivation was performed with the seat in the Forward, Middle, and Rearward position. (Human Identification Code 036; 46.7 kg 149.9 cm)

## DATA SHEET 27 SUMMARY

Low Risk Deployment Tests Using an Unbelted 5<sup>th</sup> Percentile Female  
Dummy (Part 572, Subpart O) (S26)  
Position 1 - Chin On Module (S26.2)

NHTSA No.:	C50501	TEST DATE:	2-23-05
LABORATORY:	MGA	TECHNICIANS:	BR
DUMMY TYPE:	5 <sup>th</sup> Percentile Female	DUMMY SERIAL NO.:	506

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.4°  
 Tested seat position: Full Aft

Tested steering wheel angle: 23.6°  
 Thorax cavity angle: 29.2°  
 Bottom of chin height: 6 mm Below Module

### Air Bag Deployment Timing

Stage No.	Firing time (ms)	Recorded firing time (ms)
1	0.0	0.0
2	120.0	120.3

### 5<sup>th</sup> Percentile Female SN 506 Position 1 (Chin On Module) 2-23-05

Injury Criteria	Max. Allowable Injury Assessment Values	Measured Value
HIC15	700	8
Peak Nij (Nte)	1.0	0.3
Time (ms)	NA	13.1
Peak Nij (Ntf)	1.0	0.3
Time (ms)	NA	9.1
Peak Nij (Nce)	1.0	0.1
Time (ms)	NA	11.6
Peak Nij (Ncf)	1.0	0.0
Time (ms)	NA	2.2
Neck Tension	2070 N	1118
Neck Compression	2520 N	77
Chest g	60 g	8
Chest Displacement	52 mm	6
Left Femur	6805 N	44
Right Femur	6805 N	119

Calculated on data recorded for 125 ms after the initiation of the final stage of air bag deployment designed to deploy in any full frontal rigid barrier crash up to 26 km/h. (S4.11(d))

Second stage fire time of 120 ms; Injuries calculated on 0 ms to 245 ms

## DATA SHEET 28 SUMMARY

Low Risk Deployment Tests Using an Unbelted 5<sup>th</sup> Percentile Female  
Dummy (Part 572, Subpart O) (S26)  
Position 2 - Chin On Rim (S26.3)

NHTSA No.:	C50501	TEST DATE:	2-23-05
LABORATORY:	MGA	TECHNICIANS:	BR
DUMMY TYPE:	5 <sup>th</sup> Percentile Female	DUMMY SERIAL NO.:	516

Manufacturer's design seat back angle: 22.5°  
 Tested seat back angle: 22.5°  
 Tested seat position: Full Aft

Tested steering wheel angle: 21.4°\*  
 Thorax cavity angle: 27.4°  
 Chin Point height: 17 mm Below Steering Wheel Target

Note:

The chin on rim steering wheel target is 10 mm below the highest point on the steering wheel

\*The dummy contacted the windshield with the steering wheel at mid position. The steering controls were adjusted to lower the upper steering wheel rim the necessary amount to bring the Chin Point coincident with the upper steering wheel rim. The rear thorax cavity was adjusted along with the steering wheel angle.

### Air Bag Deployment Timing

Stage No.	Firing time (ms)	Recorded firing time (ms)
1	0.0	0.0
2	120.0	120.3

### 5<sup>th</sup> Percentile Female SN 516 Position 2 (Chin On Rim) 2-23-05

Injury Criteria	Max. Allowable Injury Assessment Values	Measured Value
HIC15	700	6
Peak Nij (Nte)	1.0	0.3
Time (ms)	NA	12.4
Peak Nij (Ntf)	1.0	0.2
Time (ms)	NA	29.2
Peak Nij (Nce)	1.0	0.0
Time (ms)	NA	182.2
Peak Nij (Ncf)	1.0	0.1
Time (ms)	NA	123.0
Neck Tension	2070 N	846
Neck Compression	2520 N	60
Chest g	60 g	18
Chest Displacement	52 mm	12
Left Femur	6805 N	7
Right Femur	6805 N	31

Calculated on data recorded for 125 ms after the initiation of the final stage of air bag deployment designed to deploy in any full frontal rigid barrier crash up to 26 km/h. (S4.11(d))  
 Second stage fire time of 120 ms; Injuries calculated on 0 ms to 245 ms



## DATA SHEET 32

### VEHICLE WEIGHT, FUEL TANK, AND ATTITUDE DATA

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 4/18/06

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<u>X</u> 32 to 40 kmph	0 to 48 kmph	0 to 56 kmph
DRIVER DUMMY:	<u>X</u> 5 <sup>th</sup> female		50 <sup>th</sup> male
PASSENGER DUMMY:	<u>X</u> 5 <sup>th</sup> female		50 <sup>th</sup> male

- |          |     |   |
|----------|-----|---|
| <b>X</b> | 1.  | Fill the transmission with transmission fluid to the satisfactory range.  |
| <b>X</b> | 2.  | Drain fuel from vehicle   |
| <b>X</b> | 3.  | Run the engine until fuel remaining in the fuel delivery system is used and the engine stops.   |
| <b>X</b> | 4.  | Record the useable fuel tank capacity supplied by the COTR  |
| <b>X</b> |     | Useable Fuel Tank Capacity supplied by COTR: 55 liters (14.5 gallons)   |
| <b>X</b> | 5.  | Record the fuel tank capacity supplied in the owner's manual.   |
| <b>X</b> |     | Useable Fuel Tank Capacity in owner's manual: 55 liters (14.5 gallons)  |
| <b>X</b> | 6.  | Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1 solvent or cleaning fluid, Table 1, ASTM Standard D484-71, "Standard Specifications for Hydrocarbon Dry-cleaning Solvents," or gasoline, fill the fuel tank. |
| <b>X</b> |     | Amount Added: 55 liters (14.5 gallons)  |
| <b>X</b> | 7.  | Fill the coolant system to capacity.  |
| <b>X</b> | 8.  | Fill the engine with motor oil to the Max. mark on the dip stick.   |
| <b>X</b> | 9.  | Fill the brake reservoir with brake fluid to its normal level.  |
| <b>X</b> | 10. | Fill the windshield washer reservoir to capacity.   |
| <b>X</b> | 11. | Inflate the tires to the tire pressure on the tire placard. If no tire placard is available, inflate the tires to the recommended pressure in the owner's manual.   |

Tire placard pressure:	RF:	30 psi	LF:	30 psi	RR:	30 psi	LR:	30 psi
Owner's manual pressure:	RF:	30 psi	LF:	30 psi	RR:	30 psi	LR:	30 psi
Actual inflated pressure:	RF:	30 psi	LF:	30 psi	RR:	30 psi	LR:	30 psi

- |          |     |  |
|----------|-----|--|
| <b>X</b> | 12. | Record the vehicle weight at each wheel to determine the unloaded vehicle weight (UVW), i.e. "as delivered" weight). |
|----------|-----|--|

Right Front (kg):	415.9	Right Rear (kg):	243.6
Left Front (kg):	413.6	Left Rear (kg):	258.6
Total Front (kg):	829.5	Total Rear (kg):	502.2
% Total Weight:	62.3	% Total Weight:	37.7
UVW = TOTAL FRONT PLUS TOTAL REAR (KG):		1331.7	

- |          |      |   |
|----------|------|---|
| <b>X</b> | 13.  | UVW Test Vehicle Attitude: (All dimensions in millimeters)  |
| <b>X</b> | 13.1 | Mark a point on the vehicle above the center of each wheel. |
| <b>X</b> | 13.2 | Place the vehicle on a level surface.                       |

- ☒ 13.3 Measure perpendicular to the level surface to the 4 points marked on the body and record the measurements

RF:	677	LF:	675	RR:	668	LR:	662
-----	-----	-----	-----	-----	-----	-----	-----

- ☒ 14. Calculate the Rated Cargo and Luggage Weight (RCLW).
- ☒ 14.1 Does the vehicle have the vehicle capacity weight (VCW) on the certification label or tire placard?

- ☒ Yes, go to 14.3 On inside left front door frame
- ☐ No, go to 14.2

- ☐ 14.2 VCW = Gross Vehicle Weight – UVW

$$VCW = \underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

- ☒ 14.3 VCW = 385 kg (850 lbs)

- ☒ 14.4 Does the certification or tire placard contain the Designated Seating Capacity (DSC)?

- ☒ Yes, go to 14.6
- ☐ No, go to 14.5 and skip 14.6

- ☐ 14.5 DSC = Total number of seat belt assemblies =

- ☒ 14.6 DSC = 5

- ☒ 14.7 RCLW = VCW – (68 kg x DSC) = 385 kg - (68 kg x 5) = 45 kg

- ☒ 14.8 Is the vehicle certified as a truck, MPV or bus (see the certification label on the door jamb)?

- ☐ Yes, if the calculated RCLW is greater than 136 kg, use 136 kg as the RCLW. (S8.1.1)
- ☒ No, use the RCLW calculated in 14.7

- ☒ 15. Fully Loaded Weight (100% fuel fill)

- ☒ 15.1 Place the appropriate test dummy in both front outboard seating positions.

Driver: X 5<sup>th</sup> female     50<sup>th</sup> male  
 Passenger: X 5<sup>th</sup> female     50<sup>th</sup> male

- ☒ 15.2 Load the vehicle with the RCLW from 14.7 or 14.8 whichever is applicable.

- ☒ 15.3 Place the RCLW in the cargo area. Center the load over the longitudinal centerline of the vehicle. (S8.1.1 (d))

- ☒ 15.4 Record the vehicle weight at each wheel to determine the Fully Loaded Weight.

Right Front (kg):	448.2	Right Rear (kg):	283.5
Left Front (kg):	445.0	Left Rear (kg):	298.5
Total Front (kg):	893.2	Total Rear (kg):	582.0
% Total Weight:	60.5	% Total Weight:	39.5
% GVW	54.5	% GVW	47.7
Fully Loaded Weight = Total Front Plus Total Rear (kg):		1475.2	

- ☒ 16. Fully Loaded Test Vehicle Attitude: (All dimensions in millimeters)

- ☒ 16.1 Place the vehicle on a level surface.

- X** 16.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13.1 above) and record the measurements

RF:	662	LF:	660	RR:	647	LR:	642
-----	-----	-----	-----	-----	-----	-----	-----

- X** 17. Drain the fuel system
- X** 18. Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1 solvent or cleaning fluid, Table 1, ASTM Standard D484-71, "Standard Specifications for Hydrocarbon Dry-cleaning Solvents," fill the fuel tank to 92 - 94 percent of useable capacity.

**X** Fuel tank capacity x .92 = 55.0 liters (14.5 gallons) x .92 = 50.6 liters (13.4 gallons)

**X** Amount added 50.6 liters (13.4 gallons) 92%

- X** 19. Crank the engine to fill the fuel delivery system with Stoddard solvent
- X** 20. Calculate the test weight range.
- X** 20.1 Calculated Weight = UVW (see 12 above) + RCLW (see 14 above) + 2x(dummy weight)

$$1474.7 \text{ kg} = 1331.7 \text{ kg} + 45.0 \text{ kg} + 98.0 \text{ kg}$$

- X** 20.2 Test Weight Range = Calculated Weight (- 4.5 kg, - 9 kg.)  
 Max. Test Weight = Calculated Test Weight - 4.5 kg = 1470.2 kg  
 Min. Test Weight = Calculated Test Weight - 9 kg = 1465.7 kg

- X** 21. Remove the RCLW from the cargo area.
- X** 22. Drain transmission fluid, engine coolant, motor oil, and windshield washer fluid from the test vehicle so that Stoddard solvent leakage from the fuel system will be evident.
- X** 23. Vehicle Components Removed For Weight Reduction:  
Right rear tail light, tool & jack, trunk interior, and spare tire
- X** 24. Secure the equipment and ballast in the load carrying area and distribute it, as nearly as possible, to obtain the proportion of axle weight indicated by the gross axle weight ratings and center it over the longitudinal centerline of the vehicle.

- X** 25. If necessary, add ballast to achieve the actual test weight.

**X** N/A

**X** Weight of Ballast: 20.4 kg

- X** 26. Ballast, including test equipment, must be contained so that it will not shift during the impact event or interfere with data collection or interfere with high-speed film recordings or affect the structural integrity of the vehicle or do anything else to affect test results. Care must be taken to assure that any attachment hardware added to the vehicle is not in the vicinity of the fuel tank or lines.

- X** 27. Record the vehicle weight at each wheel to determine the actual test weight.

Right Front (kg):	442.7	Right Rear (kg):	275.3
Left Front (kg):	450.9	Left Rear (kg):	298.5
Total Front (kg):	893.6	Total Rear (kg):	573.8
% Total Weight:	60.9	% Total Weight:	39.1
% GVW	54.5	% GVW	47.7
(% GVW = Axle GVW divided by Vehicle GVW)			
TOTAL FRONT PLUS TOTAL REAR (kg):			1467.4

- ☒ 28. Is the test weight between the Max. Weight and the Min. Weight (See 20.2)?
- ☒ Yes
- ☐ No, explain why not.
- ☒ 29. Test Weight Vehicle Attitude: (all dimensions in millimeters)
- ☒ 29.1 Place the vehicle on a level surface
- ☒ 29.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13 above) and record the measurements

RF:	661	LF:	657	RR:	652	LR:	647
-----	-----	-----	-----	-----	-----	-----	-----

- ☒ 30. Summary of test attitude
- ☒ 30.1 AS DELIVERED:

RF:	677	LF:	675	RR:	668	LR:	662
-----	-----	-----	-----	-----	-----	-----	-----

AS TESTED:

RF:	661	LF:	657	RR:	652	LR:	647
-----	-----	-----	-----	-----	-----	-----	-----

FULLY LOADED:

RF:	662	LF:	660	RR:	647	LR:	642
-----	-----	-----	-----	-----	-----	-----	-----

- ☒ 30.2 Is the "as tested" test attitude equal to or between the "fully loaded" and "as delivered" attitude?
- ☐ Yes
- ☒ No, explain why not. The towing method required chain attachments that lowered the front suspension- this affected vehicle front attitudes

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Gahl

Date: 4/18/06

### DATA SHEET 33

#### VEHICLE ACCELEROMETER LOCATION AND MEASUREMENT

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 4/18/06

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	X 32 to 40 kmph	0 to 48 kmph	0 to 56 kmph
DRIVER DUMMY:	X 5 <sup>th</sup> female		50 <sup>th</sup> male
PASSENGER DUMMY:	X 5 <sup>th</sup> female		50 <sup>th</sup> male

- X

 1. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the left front outboard seating position intersects the left rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.
- X

 2. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the right front outboard seating position intersects the right rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.
- X

 3. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect at the top of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- X

 4. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect the bottom of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- X

 5. Install an accelerometer on the right front brake caliper to record x-direction accelerations. Record the location on the following chart.
- X

 6. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the top of the instrument panel. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- X

 7. Install an accelerometer on the left front brake caliper to record x-direction accelerations. Record the location on the following chart.
- X

 8. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the floor of the trunk. Install an accelerometer on the trunk floor at this intersection to record z-direction accelerations. Record the location on the following chart.

REMARKS:

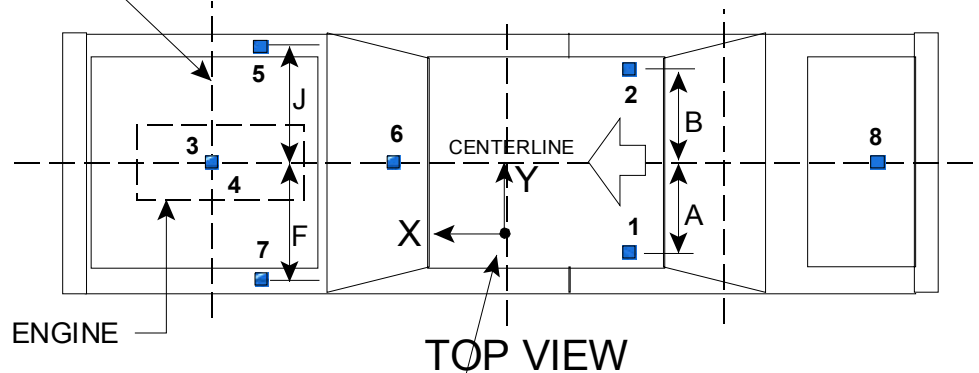
I certify that I have read and performed each instruction.

Signature: Wayne Dahlke

Date: 11/12/04

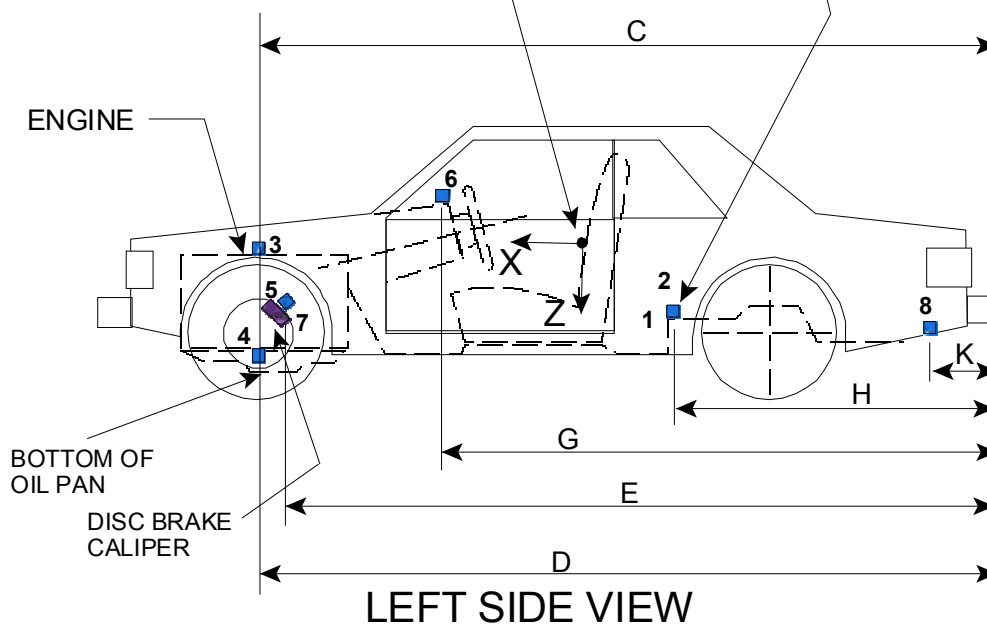
## VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

CENTERLINE OF  
FRONT WHEELS



ACCELEROMETER  
COORDINATE SYSTEM  
(POSITIVE DIRECTION SHOWN)

REAR SEAT CUSHION  
ASSY. FRONT ATTACHMENT  
BRACKET SUPPORT



Dimensions Corresponding To The Letters "A" Through "K" (Excluding "I") Are  
Recorded In The Table On The Following Page.  
Accelerometers Corresponding To The Numbers 1 Through 8 Are Specified On The  
Preceding Page.

**DATA SHEET 33**  
**VEHICLE ACCELEROMETER LOCATION AND MEASUREMENTS**

<u>DIMENSION</u>	<u>LENGTH (mm)</u>	
<u>PRETEST VALUES</u>		
<u>A</u> (LH Rear Seat Xmbr)	325	
<u>B</u> (RH Rear Seat Xmbr)	332	
<u>C</u> (Engine Top)	3612	
<u>D</u> (Engine Bottom)	3795	
<u>E</u> (Caliper)	Right Side    3703	Left Side    3685
<u>F</u> (Left Caliper)	640	
<u>G</u> (IP)	3014	
<u>H</u> (Seat)	1718	
<u>J</u> (Right Caliper)	640	
<u>K</u> (Trunk)	1016	
<u>POST TEST VALUES</u>		
<u>A</u> (LH Rear Seat Xmbr)	325	
<u>B</u> (RH Rear Seat Xmbr)	332	
<u>C</u> (Engine Top)	3580	
<u>D</u> (Engine Bottom)	3698	
<u>E</u> (Caliper)	Right Side    3685	Left Side    3670
<u>F</u> (Left Caliper)	644	
<u>G</u> (IP)	3013	
<u>H</u> (Seat)	1718	
<u>J</u> (Right Caliper)	642	
<u>K</u> (Trunk)	1016	

## DATA SHEET 34

### PHOTOGRAPHIC TARGETS

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke



NHTSA No.: C50501  
 Test Date: 4/18/06

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	X 32 to 40 kmph	0 to 48 kmph	0 to 56 kmph
DRIVER DUMMY:	X 5 <sup>th</sup> female		50 <sup>th</sup> male
PASSENGER DUMMY:	X 5 <sup>th</sup> female		50 <sup>th</sup> male

- |                                     |      |  |
|-------------------------------------|------|--|
| <input checked="" type="checkbox"/> | 1.   | FMVSS 208 vehicle targeting requirements (See Figures 28A and 28B)   |
| <input checked="" type="checkbox"/> | 1.1  | Targets A1 and A2 are on flat rectangular panels.  |
| <input checked="" type="checkbox"/> | 1.2  | Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the front on the outboard sides of A1 and A2. The center of each circular target is 100 mm from the one next to it.   |
| <input checked="" type="checkbox"/> |      | Distance between targets (mm): 100 mm  |
| <input checked="" type="checkbox"/> | 1.3  | Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the back on the outboard sides of on A1 and A2. The center of each circular target is 100 mm from the one next to it. |
| <input checked="" type="checkbox"/> |      | Distance between targets (mm): 100 mm  |
| <input checked="" type="checkbox"/> | 1.4  | The distance between the first circular target at the front of A1 and A2 and the last circular target at the back of A1 and A2 is at least 915 mm.   |
| <input checked="" type="checkbox"/> |      | Distance between the first and last circular targets (mm): 915 mm  |
| <input checked="" type="checkbox"/> | 1.5  | Firmly fix target A1 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy.   |
| <input checked="" type="checkbox"/> | 1.6  | Firmly fix target A2 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy.  |
| <input checked="" type="checkbox"/> | 1.7  | Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the driver door. The centers of each circular target are at least 610 mm apart.              |
| <input checked="" type="checkbox"/> |      | Distance between targets (mm): 610 mm  |
| <input checked="" type="checkbox"/> | 1.8  | Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the passenger door. The centers of each circular target are at least 610 mm apart.           |
| <input checked="" type="checkbox"/> |      | Distance between targets (mm): 610 mm  |
| <input checked="" type="checkbox"/> | 1.9  | Place tape with squares having alternating colors on the top portion of the steering wheel.  |
| <input checked="" type="checkbox"/> | 1.10 | Chalk the bottom portion of the steering wheel   |
| <input checked="" type="checkbox"/> | 1.11 | Is this an offset test?  |
|                                     |      | <input type="checkbox"/> Yes, continue with this section   |
|                                     |      | <input checked="" type="checkbox"/> No, go to 2.   |
|                                     | 1.12 | Measure the width of the vehicle.  |
|                                     |      | Vehicle width (mm):  |



<input type="checkbox"/>	1.13	Find the centerline of the vehicle. ( $\frac{1}{2}$ of the vehicle width)
<input type="checkbox"/>	1.14	Find the line parallel to the centerline of the vehicle and 0.1 x vehicle width from the centerline of the vehicle.
<input type="checkbox"/>	1.15	Apply 25 mm wide tape with alternating black and yellow squares parallel to and on each side of the line found in 1.14. The edge of each tape shall be 50 mm from the line found in 1.14. The tape shall extend from the bottom of the bumper to the front edge of the windshield. (Figure 28D)
<input checked="" type="checkbox"/>	2.	Barrier Targeting
<input checked="" type="checkbox"/>	2.1	Fix two stationary targets D1 and D2 to the barrier as shown in the Figure 28A. One target is in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy. The other is in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy
<input checked="" type="checkbox"/>	2.2	Targets D1 and D2 are on a rectangular panel.
<input checked="" type="checkbox"/>	2.3	Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted on the sides of the rectangular panel away from the longitudinal centerline of the vehicle. The center of each circular target is 100 mm from the one next to it.
<input checked="" type="checkbox"/>		Distance between circular targets on D1 (mm): 100 mm
<input checked="" type="checkbox"/>		Distance between circular targets on D2 (mm): 100 mm
<input checked="" type="checkbox"/>	3.	FMVSS 208 Dummy Targeting Requirements
<input checked="" type="checkbox"/>	3.1	Place a circular target with black and yellow quadrants on both sides of the driver dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).
<input checked="" type="checkbox"/>	3.2	Place a circular target with black and yellow quadrants on both sides of the passenger dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).
<input checked="" type="checkbox"/>	3.3	Place a circular target with black and yellow quadrants on the outboard shoulder of the driver dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.
<input checked="" type="checkbox"/>	3.4	Place a circular target with black and yellow quadrants on the outboard shoulder of the passenger dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.
<input checked="" type="checkbox"/>	4.	FMVSS 204 Targeting Requirements
<input checked="" type="checkbox"/>	4.1	Is an FMVSS 204 indicant test ordered on the "COTR Vehicle Work Order?"
<input type="checkbox"/>		Yes, continue with this form.
<input checked="" type="checkbox"/>		No, this form is complete. (Removed at manufacturer's request with COTR approval)
<input type="checkbox"/>	4.2	Resection panel (Figure 28C)
<input type="checkbox"/>	4.2.1	The panel deviates no more than 6 mm from perfect flatness when suspended vertically
<input type="checkbox"/>	4.2.2	The 8 targets on the panel are circular targets at least 90 mm in diameter and with black and yellow quadrants.
<input type="checkbox"/>	4.2.3	The center of each of the 4 outer targets are placed within 1 mm of the corners of a square measuring 914 mm on each side.
<input type="checkbox"/>	4.2.4	Locate another square with 228 mm sides and with the center of this square coincident with the center of the 914 mm square.
<input type="checkbox"/>	4.2.5	The center of the 4 inner targets are placed at the midpoints of each of the 228 mm sides.

-  4.3 Place a circular target at least 90 mm in diameter and with black and yellow quadrants on a material (cardboard, metal, etc.) that can be taped to the top of the steering column.
-  4.4 Tape the target from 4.3 to the top of the steering column in a manner that does not interfere with the movement of the steering column in a crash

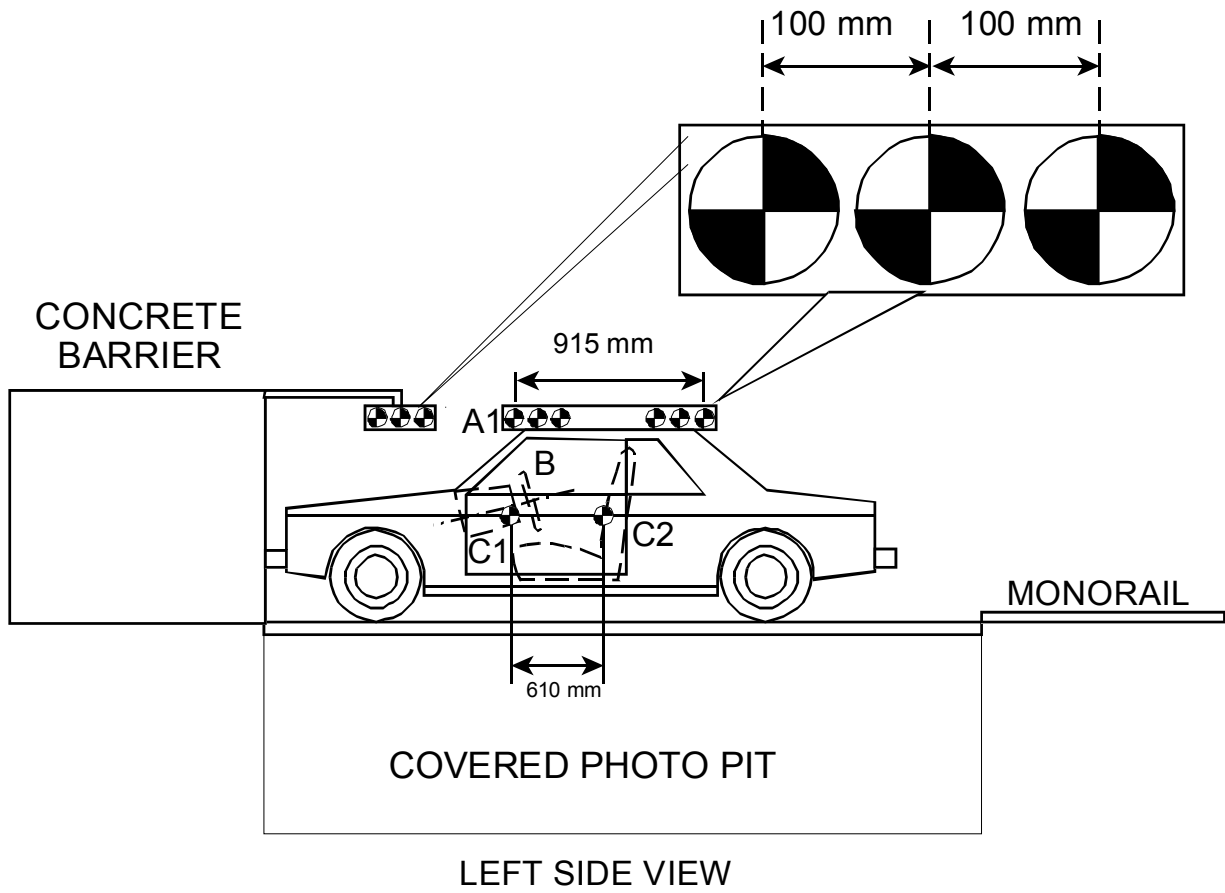
REMARKS::

I certify that I have read and performed each instruction.

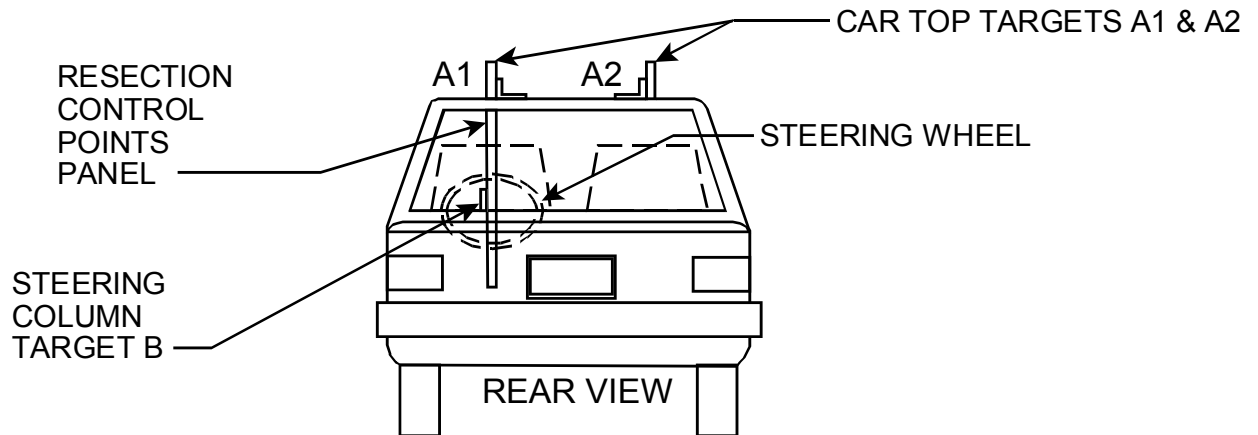
Signature: Wayne Zuhl

Date: 11/12/04

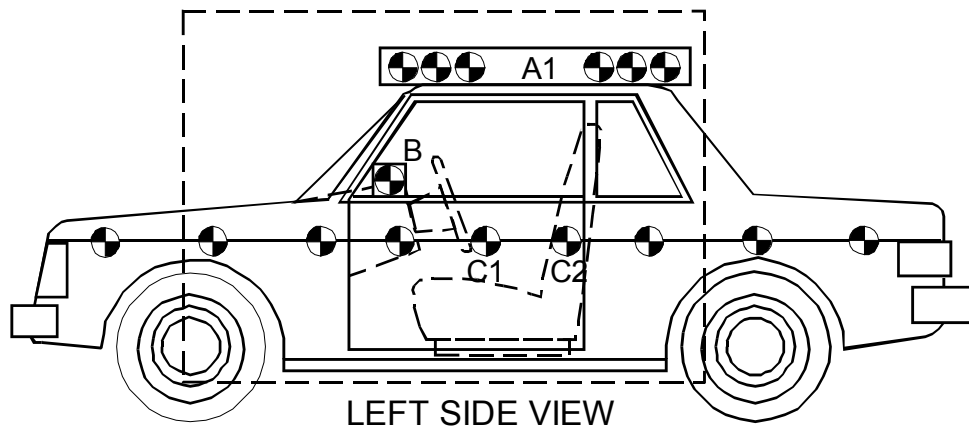
## REFERENCE PHOTO TARGETS



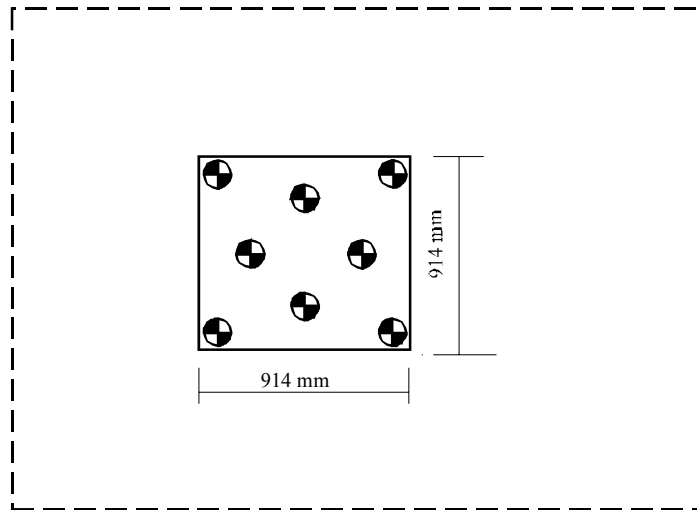
## RESECTION PANEL TARGETING ALIGNMENT



## TEST RUN STEERING COLUMN CAMERA VIEW OF TYPICAL TIME ZERO VEHICLE POSITION



## PRE-RUN STEERING COLUMN HIGH SPEED CAMERA VIEW



LEFT SIDE VIEW

**DATA SHEET 35**  
**CAMERA LOCATIONS**

Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance

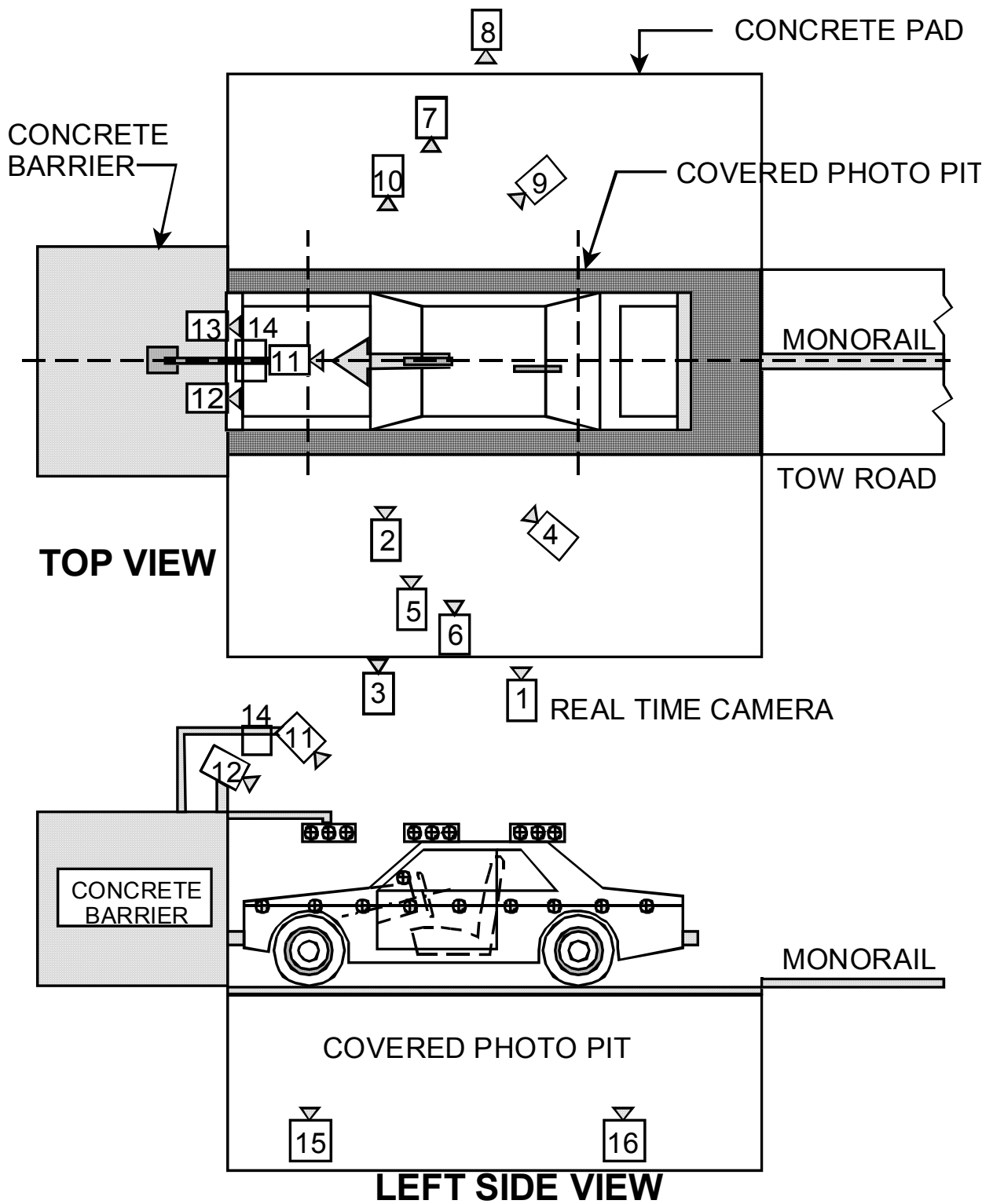
NHTSA No.: C50501  
Test Date: 4/18/06  
Time: 12:01 pm

CAMERA NO.	VIEW	CAMERA POSITIONS (mm) *			LENS (mm)	SPEED (fps)
		X	Y	Z		
1	Real Time Left Side View				13	24
2	Left Side View (Barrier face to front seat backs)	1005	-4700	1310	24	1000
3	Left Side View (Driver)	1410	-5545	1455	35	1000
4	Left Side View (B-post aimed toward center of steering wheel)	6480	-5230	2005	50	1000
5	Left Side View (Steering Column)	1600	-5200	1495	25	1000
6	Left Side View (Steering Column)	1600	-5090	1035	25	1000
7	Right Side View (Overall)	1830	6030	1360	19	1000
8	Right Side View (Passenger)	1460	5615	1470	35	1000
9	Right Side View (Angle)	6495	5245	2015	50	1000
10	Right Side View (Front door)	990	4690	1290	24	1000
11	Front View Windshield	-285	0	2370	12.5	1000
12	Front View Driver	-115	-390	2195	24	1000
13	Front View Passenger	-120	495	2195	24	1000
14	Overhead Barrier Impact View	815	0	5050	19	1000
15	Pit Camera Engine View	1215	0	-3150	24	1000
16	Pit Camera Fuel Tank View	2755	0	-3150	24	1000

**\*COORDINATES**

+X – forward of impact plane  
+Y – right of monorail centerline  
+Z – above ground level

**CAMERA POSITIONS FOR FMVSS 208**



## DATA SHEET 36

### APPENDIX G

#### DUMMY POSITIONING PROCEDURES FOR 5<sup>th</sup>% DRIVER TEST DUMMY CONFORMING TO SUBPART O OF PART 572

Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance  
Test Technician: Joe Fleck

NHTSA No.: C50501  
Test Date: 4/18/06

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<input checked="" type="checkbox"/> 32 to 40 kmph	<input type="checkbox"/> 0 to 48 kmph	<input type="checkbox"/> 0 to 56 kmph
DRIVER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female		<input type="checkbox"/> 50 <sup>th</sup> male
PASSENGER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female		<input type="checkbox"/> 50 <sup>th</sup> male

- X 1. Using the markings made from data sheet 14.3 (If not done previously or steering repairs have been made, complete data sheet 14.3 at this time.) to position the steering controls in the mid-position or if applicable next lowest detent position. (S16.2.9)
- X 2. Place the SCRP in the full rearward, mid-height position, and mid-seat cushion angle, determined during the completion of Data Sheet 14.1. (S16.3.2.1.1)
- X 3. If the vehicle has an adjustable accelerator pedal, place it in the full forward position. (S16.3.2.2.1)  
X N/A accelerator pedal not adjustable
- X 4. Fully recline the seat back. (S16.3.2.1.2)  
☐ N/A seat back not adjustable.
- X 5. Place the dummy in the seat with the legs at an angle of 120 degrees to the thighs. The calves should not be touching the seat cushion. (S16.3.2.1.2)
- X 6. Position the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion markings as determined in Data Sheet 14.1. (S16.3.2.1.3 and S16.3.2.1.4)
- X 7. Hold down the dummy's thighs and push rearward on the upper torso to maximize the pelvic angle. (S16.3.2.1.5)
- X 8. Set the angle between the legs and the thighs to 120 degrees. (S16.3.2.1.6)
- X 9. Set the transverse distance between the centers of the front of the knees at 160 to 170 mm. (6.3 to 6.7 inches) Center the knee separation with respect to the longitudinal seat cushion marking as determined Data Sheet 14.1. (S16.3.2.1.6)  
Record Knee Separation 165
- X 10. Push rearward on the dummy's knees until the pelvis contacts the seat back, or the backs of the calves contact the seat cushion, whichever occurs first. (S16.3.2.1.6)  
☐ Pelvis contacted seat back.  
X Calves contacted seat cushion.



- ☒ 11. Gently rock the upper torso  $\pm 5$  degrees (approximately 51 mm (2 inches)) side-to-side three time. (S16.3.2.1.7)
- ☒ 12. If needed, extend the legs until the feet do not contact the floor pan. The thighs should be resting on the seat cushion. (S16.3.2.1.8)
- ☒ 13. Position the right foot until the foot is in line with a longitudinal vertical plane passing through the center of the accelerator pedal. Maintain the leg and thigh in a vertical plane. (S16.3.2.1.8)
- ☒ 14. Rotate the left leg and thigh laterally to equalize the distance between each knee and the longitudinal seat cushion marking as determined in Data Sheet 14.1. (S16.3.2.1.8)
- ☒ 15. Attempt to return the seat to the foremost fore-aft position, mid-height, and seat cushion mid-angle as determined in Data Sheet 14.2. The foot may contact and depress the accelerator and/or change the angle of the foot with respect to the leg. (S16.3.2.1.8)
- ☒ Foremost position achieved. Proceed to step 20.
- ☐ Foremost not achieved because of foot interference. Proceed to step 17.
- ☐ Foremost not achieved because of steering wheel contact.
- ☐ 16. If either of the dummy's legs contact the steering wheel, move the steering wheel up the minimum amount required to avoid contact. If the steering wheel is not adjustable separate the knees the minimum required to avoid contact. (S16.3.2.1.8)
- ☐ N/A- there was no leg contact
- ☐ Steering wheel repositioned
- ☐ Knees separated
- ☐ 17. If the left foot interferes with the clutch or brake pedals, rotate the left foot about the leg to provide clearance. If this is not sufficient, rotate the thigh outboard at the hip the minimum amount required for clearance. (S16.3.2.1.8)
- ☐ N/A, No foot interference with pedals.
- ☐ Foot adjusted to provide clearance.
- ☐ Foot and Thigh adjusted to provide clearance.
- ☐ 18. Continue to move the seat. Use seat controls to line up the seat markings determined during the completion of Data Sheet 14.1 to set the foremost fore-aft position, mid-height position and the seat cushion mid-angle. If the dummy contacts the interior move the seat rearward until a maximum clearance of 5 mm (0.2 inches) is achieved or the seat is in the closest detent position that does not cause dummy contact. (S16.3.2.1.8)
- ☐ Foremost, mid-height position and the seat cushion mid-angle reached
- ☐ Dummy contact. Clearance set at maximum of 5mm
- Measured Clearance \_\_\_\_\_
- ☐ Dummy Contact. Seat set at nearest detent position.
- Seat position \_\_\_\_ detent positions rearward of foremost  
(foremost is position zero)

- ☐ 19. If the steering wheel was repositioned in step 16, return the steering wheel to the original position. If the steering wheel contacts the dummy before reaching the original position, position the wheel until a maximum clearance of 5mm (.2 inches) is achieved, or the steering wheel is in the closest detent position that does not cause dummy contact. (S16.3.2.1.8)

☐ N/A Steering wheel was not repositioned.

☐ Original position achieved.

☐ Dummy contact. Clearance set at maximum of 5mm

Measured Clearance \_\_\_\_\_

☐ Dummy Contact. Steering wheel set at nearest detent position.

Steering wheel position \_\_\_\_ detent positions upward of original position.

(Original position is position zero)

- ☒ 20. If the seat back is adjustable, rotate the seat back forward while holding the thighs in place. Continue rotating the seat back forward until the transverse instrument platform of the dummy head is level  $\pm 0.5$  degrees. If the head cannot be leveled using the seat back adjustment, or the seat back is not adjustable, use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, minimize the angle. (S16.3.2.1.9)

☒ Head Level Achieved. (Check all that apply)

☒ Head leveled using the adjustable seat back

☐ Head leveled using the neck bracket.

Head Angle 0.3 degrees

☐ Head Level NOT Achieved. (Check all that apply)

☐ Head adjusted using the adjustable seat back

☐ Head adjusted using the neck bracket.

Head Angle \_\_\_\_\_ degrees

- ☒ 21. Verify the pelvis is not interfering with the seat bight. (S16.3.2.1.9)

☒ No interference

☐ Pelvis moved forward the minimum amount so that it is not caught in the seat bight.

- ☒ 22. Verify the dummy abdomen is properly installed. (S16.3.2.1.9)

☒ Abdomen still seated properly into dummy

☐ Abdomen was adjusted because it was not seated properly into dummy

- ☒ 23. Head Angle

☒ N/A, neither the pelvis nor the abdomen were adjusted.

- ☒ 23.1 Head still level (Go to 24)

- ☐ 23.2 Head level adjusted

☐ Head Level Achieved. (Check all that apply)

☐ Head leveled using the adjustable seat back

☐ Head leveled using the neck bracket.

Head Angle \_\_\_\_\_ degrees

☐ Head Level NOT Achieved. (Check all that apply)

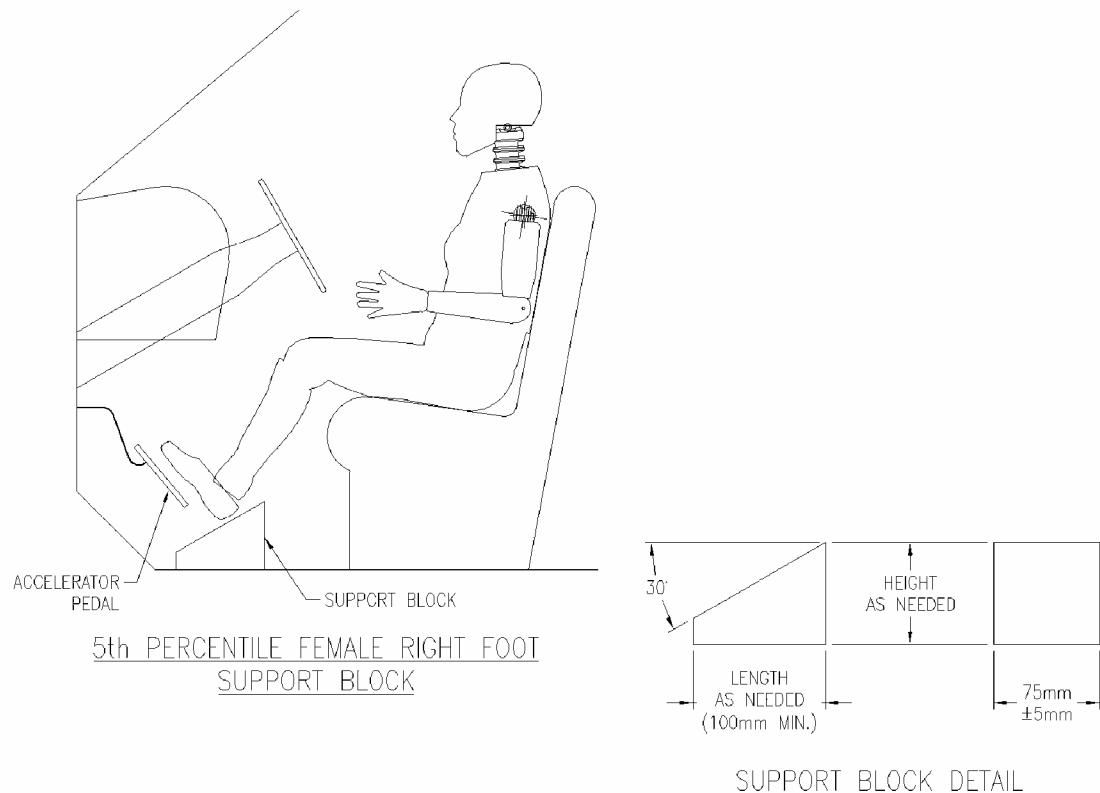
☐ Head level adjusted using the adjustable seat back

☐ Head level adjusted using the neck bracket.

Head Angle \_\_\_\_\_ degrees

- ☒ 24. If the dummy torso contacts the steering wheel while performing step 20, reposition the steering wheel in the following order to eliminate contact. (S16.3.2.1.9)  
☒ N/A, No dummy torso contact with the steering wheel.
- ☐ 24.1 Adjust telescoping mechanism.  
☐ N/A No telescoping adjustment.  
☐ Adjustment performed (fill in appropriate change)  
Steering wheel moved \_\_\_\_\_ detent positions in the forward direction.  
Steering wheel moved \_\_\_\_\_ mm in the forward direction.
- ☐ 24.2 Adjust tilt mechanism.  
☐ N/A No tilt adjustment.  
☐ No adjustment performed.  
☐ Adjustment performed.  
Steering wheel moved \_\_\_\_\_ detent positions Upward/Downward.  
(circle one)  
Steering wheel moved \_\_\_\_\_ degrees Upward/Downward
- ☐ 24.3 Adjust Seat in the aft direction.  
☐ No Adjustment performed.  
☐ Seat moved aft \_\_\_\_\_ mm from original position.  
☐ Seat moved aft \_\_\_\_\_ detent positions from the original position.
- ☒ 25. Measure and set the pelvic angle using the pelvic angle gage TE-2504. The pelvic angle should be 20.0 degrees  $\pm$  2.5 degrees. If the pelvic angle cannot be set to the specified range because the head will not be level or because the dummy will have need major repositioning, adjust the pelvis as closely as possible to the angle range, but keep the head level. (S16.3.2.1.11)  
☒ Pelvic angle set to 20.0 degrees  $\pm$  2.5 degrees.  
☐ Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.  
☐ Record the pelvic angle. 20.2 degrees
- ☒ 26. Check the dummy for contact with the interior after completing adjustments. (S16.3.2.1.12)  
☒ No contact.  
☐ Dummy in contact with interior.  
☐ Seat moved aft \_\_\_\_\_ mm from the previous position.  
☐ Seat moved aft \_\_\_\_\_ detent positions from the previous position.
- ☒ 27. Check the dummy to see if additional interior clearance is obtained, allowing the seat to be moved forward. (S16.3.2.1.12)  
☒ N/A, Seat already at foremost position.  
☐ Clearance unchanged. No adjustments required.  
☐ Additional clearance available  
☐ Seat moved Forward \_\_\_\_\_ mm from the previous position.  
☐ Seat moved Forward \_\_\_\_\_ detent positions from the previous position.
- ☒ 28. Driver's foot positioning, right foot. Place the foot perpendicular to the leg and determine if the heel contacts the floor pan at any leg position. If the heel contacts the floor pan proceed to step 29 otherwise, proceed to step 30. (S16.3.2.2.1)
- ☒ 29. Perform the following steps until either all steps are completed, or the foot contacts the accelerator pedal. Step 29.6 shall be completed in all cases. (S16.3.2.2.1(a))

- ☒ 29.1 With the rear of the heel contacting the floor pan, move the foot forward until pedal contact occurs or the foot is at the full forward position.
- ☐ 29.2 If the vehicle has an adjustable accelerator pedal, move the pedals rearward until pedal contact occurs or the pedals reach the full rearward position.
- ☐ 29.3 Extend the leg, allowing the heel to lose contact with the floor until the foot contacts the pedal. Do not raise the toe of the foot higher than the top of the accelerator pedal. If the foot does not contact the pedal, proceed to the next step. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.3)
- ☐ 29.4 Angle the foot to achieve contact between the foot and the pedal. If the foot does not contact the pedal, return the foot to the perpendicular orientation. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.3)
- ☐ 29.5 Align the centerline of the foot with the vertical-longitudinal plane passing through the center of the accelerator pedal. Place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.3)
- ☒ 29.6 Record foot position
- ☒ Pedal Contact achieved. Contact occurred at step 29.1.
- ☒ Heel contacts floor pan
- ☐ Heel set \_\_\_\_\_ mm from floor pan.
- ☐ Pedal Contact not achieved. Heel set \_\_\_\_\_ mm from the floor pan.



**FIGURE G1**

- \_\_\_30. Perform the following steps until either all steps are completed, or the foot contacts the accelerator pedal. Step 30.5 shall be completed in all cases.
  - \_\_\_30.1 Extend the leg until the foot contacts the pedal. Do not raise the toe of the foot higher than the top of the accelerator pedal. If the foot does not contact the pedal, proceed to the next step. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.1(b) & S16.3.2.2.3)
  - \_\_\_30.2 If the vehicle has an adjustable accelerator pedal, move the pedals rearward until pedal contact occurs or the pedals reach the full rearward position. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.1(b) & S16.3.2.2.3)
    - \_\_\_N/A No pedal adjustment
  - \_\_\_30.3 Angle the foot to achieve contact between the foot and the pedal. If the foot does not contact the pedal, return the foot to the perpendicular orientation. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.2 & S16.3.2.2.3)
  - \_\_\_30.4 Align the centerline of the foot in the same horizontal plane as the centerline of the accelerator pedal. Place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.3)

30.5 Record foot position

     Pedal Contact achieved. Contact occurred at step           .

     Heel set          mm from floor pan.

     Pedal Contact not achieved. Heel set          mm from the floor pan.

X 31. Driver's foot positioning, left foot.

X 31.1 Place the foot perpendicular to the leg and determine if the heel contacts the floor pan at any leg position. If the heel contacts the floor pan proceed to step 31.2, otherwise position the leg as perpendicular to the thigh as possible with the foot parallel to the floor pan. (S16.2.2.6)

X 31.2 Place the foot on the toe board with the heel resting on the floor pan as close to the intersection of the floor pan and the toe board as possible. Adjust the angle of the foot if necessary to contact the toe board. If the foot will not contact the toe board, set the foot perpendicular to the leg, and set the heel on the floor pan as far forward as possible. Avoid contact with the brake pedal, clutch pedal, wheel well projection, and footrest. To avoid this contact use the following three manipulations in the order listed, with each subsequent option incorporating the previous, until contact is avoided: rotate the foot about the lower leg (abduction/adduction), plantar flex the foot, rotate the leg outboard about the hip. Movement should be the minimum amount necessary. If it is not possible to avoid all foot contact, give priority to avoiding brake or clutch pedal contact. (S16.2.2.4 & S16.2.2.5 & S16.2.2.7)

X No contact

     Foot rotated about the leg (abduction/adduction)

     Foot rotated about the leg, and foot plantar flexed

     Foot rotated about the leg, foot plantar flexed, and the leg rotated about the hip.

X 31.3 Record foot position.

     Heel does not contact floor pan.

     Heel on floor pan and foot on toe board.

X Heel on floor pan and foot not on toe board.

X 32. Driver arm/hand positioning.

X 32.1 Place the dummy's upper arms adjacent to the torso with the arm centerlines as close to a vertical longitudinal plane as possible. (S16.3.2.3.1)

X 32.2 Place the palms of the dummy in contact with the outer part of the steering wheel rim at its horizontal centerline with the thumbs over the steering wheel rim. (S16.3.2.3.2)

X 32.3 If it is not possible to position the thumbs inside the steering wheel rim at its horizontal centerline, then position them above and as close to the horizontal centerline of the steering wheel rim as possible. (S16.3.2.3.3)

X 32.4 Lightly tape the hands to the steering wheel rim so that if the hand of the test dummy is pushed upward by a force of not less than 9 N (2 lb) and not more than 22 N (5 lb), the tape releases the hand from the steering wheel rim. S16.3.2.3.4

X 33. Adjustable head restraints

     N/A, there is no head restraint adjustment

- ☐ 33.1 If the head restraint has an automatic adjustment, leave it where the system positions the restraint after the dummy is placed in the seat. (S16.3.4.1) Go to 34.
- ☐ 33.2 Adjust each head restraint vertically so that the mid-horizontal plane determined in Data Sheet 14.1 is aligned with the center of gravity (CG) of the dummy head. (S16.3.4.3)
- ☒ 33.3 If the above position is not attainable, move the vertical center of the head restraint to the closest detent below the center of the head CG. (S16.3.4.3)  
☐ N/A midpoint position attained in previous step  
☒ Headrest set at nearest detent below the head CG
- ☐ 33.4 If the head restraint has a fore and aft adjustment, place the restraint in the foremost position or until contact with the head is made, whichever occurs first. (S16.3.4.4)
- ☐ 34. Driver and passenger manual belt adjustment (for tests conducted with a belted dummy). (S16.3.5) UNBELTED TEST
- ☐ 34.1 If an adjustable seat belt D-ring anchorage exists, place it in the manufacturer's design position for a 5th percentile adult female. (S16.3.5.1) **This information will be supplied by the COTR.**  
Manufacturer's specified position \_\_\_\_\_  
Actual Position \_\_\_\_\_
- ☐ 34.2 Place the Type 2 manual belt around the test dummy and fasten the latch. (S16.3.5.2)
- ☐ 34.3 Ensure that the dummy's head remains as level as possible. (S16.3.5.3)
- ☐ 34.4 Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this operation four times. Apply a 9 N (2 lbf) to 18 N (4 lbf) tension load to the lap belt. If the belt system is equipped with a tension-relieving device, introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer. If the belt system is not equipped with a tension-relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor. (S16.3.5.4)

I certify that I have read and performed each instruction.

Signature: 

Date: 4/18/06

## APPENDIX G

## DUMMY POSITIONING PROCEDURES

**FOR 5<sup>th</sup>% PASSENGER TEST DUMMY CONFORMING TO SUBPART O OF PART 572**

NHTSA No.: C50501  
Test Date: 4/18/06

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<u>X</u> 32 to 40 kmph	<u>    </u> 0 to 48 kmph	<u>    </u> 0 to 56 kmph
DRIVER DUMMY:	<u>X</u> 5 <sup>th</sup> female	<u>    </u> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<u>X</u> 5 <sup>th</sup> female	<u>    </u> 50 <sup>th</sup> male	

(Check this item **ONLY** if it applies to this vehicle.)

The passenger seat adjustments are controlled by the adjustments made to the driver's seat. Therefore, positioning of the passenger dummy is made simultaneously with the driver dummy. Adjustments made to the seat to position the driver will over ride any adjustments that would normally be made to position the passenger. (S16.2.10.3)

- X 1. Place the SCRP in the full rearward, mid-height position, and mid-seat cushion angle, determined during the completion of Data Sheet 14.1. (S16.3.3.1.1)
- X 2. Fully recline the seat back. (S16.3.3.1.2)  
\_\_\_ N/A seat back not adjustable.
- X 3. Place the dummy in the seat with the legs at an angle of 120 degrees to the thighs. The calves should not be touching the seat cushion. (S16.3.3.1.2)
- X 4. Position the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion marking that was determined in Data Sheet 14.1. (S16.3.3.1.3 and S16.3.3.1.4)
- X 5. Hold down the dummy's thighs and push rearward on the upper torso to maximize the pelvic angle. (S16.3.3.1.5)
- X 6. Set the angle between the legs and the thighs to 120 degrees. (S16.3.3.1.6)
- X 7. Set the transverse distance between the centers of the front of the knees at 160 to 170 mm. (6.3 to 6.7 inches). Center the knee separation with respect to the longitudinal seat cushion marking that was determined Data Sheet 14.1. (S16.3.3.1.6)  
Record Knee Separation 170
- X 8. Push rearward on the dummy's knees until the pelvis contacts the seat back, or the backs of the calves contact the seat cushion, whichever occurs first. (S16.3.3.1.6)  
\_\_\_ Pelvis contacted seat back.  
\_\_\_ Calves contacted seat cushion.
- X 9. Gently rock the upper torso  $\pm 5$  degrees (approximately 51 mm (2 inches)) side-to-side three times. (S16.3.3.1.7)



- ☒ 10. If needed, extend the legs until the feet do not contact the floor pan. The thighs should be resting on the seat cushion. (S16.3.3.1.8)
- ☒ 11. Use seat controls to line up the seat markings determined during the completion of Data Sheet 14.1 to set the foremost fore-aft position, mid-height position and the seat cushion mid-angle. If the dummy contacts the interior move the seat rearward until a maximum clearance of 5 mm (0.2 inches) is achieved or the seat is in the closest detent position that does not cause dummy contact. (S16.3.3.1.8)
- ☒ Foremost, mid-height position and the seat cushion mid-angle reached
- ☐ Dummy contact. Clearance set at maximum of 5mm  
Measured Clearance \_\_\_\_\_
- ☐ Dummy Contact. Seat set at nearest detent position.  
Seat position \_\_\_\_ detent positions rearward of foremost  
(foremost is position zero)
- ☒ 12. If the seat back is adjustable, rotate the seat back forward while holding the thighs in place. Continue rotating the seat back forward until the transverse instrument platform of the dummy head is level  $\pm 0.5$  degrees. If head cannot be leveled using the seat back adjustment, or the seat back is not adjustable, use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, adjust the head as closely as possible to the  $\pm 0.5$  degree range. (S16.3.3.1.9 and S16.3.3.1.10)  
(Check All That Apply)
- ☐ Seat back not adjustable
- ☐ Seat back not independent of driver side seat back
- ☒ Head Level Achieved. (Check all that apply)
- ☒ Head leveled using the adjustable seat back
- ☐ Head leveled using the neck bracket.  
Head Angle 0.2 degrees
- ☐ Head Level NOT Achieved. (Check all that apply)
- ☐ Head adjusted using the adjustable seat back
- ☐ Head adjusted using the neck bracket.  
Head Angle \_\_\_\_\_ degrees
- ☒ 13. Verify the pelvis is not interfering with the seat bight. (S16.3.3.1.9)
- ☒ No interference
- ☐ Pelvis moved forward the minimum amount so that it is not caught in the seat bight.
- ☒ 14. Verify the dummy abdomen is properly installed. (S16.3.3.1.9)
- ☒ Abdomen still seated properly into dummy
- ☐ Abdomen was adjusted because it was not seated properly into dummy
- ☒ 15. Head Angle
- ☒ N/A, neither the pelvis nor the abdomen were adjusted.
- ☒ 15.1 Head still level (Go to 16)

15.2 Head level adjusted

     Head Level Achieved. (Check all that apply)

     Head leveled using the adjustable seat back

     Head leveled using the neck bracket.

Head Angle                      degrees

     Head Level NOT Achieved. (Check all that apply)

     Head adjusted using the adjustable seat back

     Head adjusted using the neck bracket.

Head Angle                      degrees

X 16. Measure and set the pelvic angle using the pelvic angle gage TE-2504. The pelvic angle should be 20.0 degrees  $\pm$  2.5 degrees. If the pelvic angle cannot be set to the specified range because the head will not be level or because the dummy will have need major repositioning, adjust the pelvis as closely as possible to the angle range, but keep the head level.

X Pelvic angle set to 20.0 degrees  $\pm$  2.5 degrees.

     Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.

X Record the pelvic angle.     21.2     degrees

X 17. Check the dummy for contact with the interior after completing adjustments.

X No contact.

     Dummy in contact with interior.

     Seat moved aft      mm from the previous position.

     Seat moved aft      detent positions from the previous position.

X 18. Verify the transverse instrument platform of the dummy head is level  $\pm$  0.5 degrees. Use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, minimize the angle. (S16.3.3.1.9, S16.3.3.1.10, and S16.3.3.1.11)

X Head Level Achieved

Head Angle                      degrees

     Head Level NOT Achieved.

Head Angle                      degrees

X 19. Check the dummy to see if additional interior clearance is obtained, allowing the seat to be moved forward. (S16.3.3.1.12)

     N/A Bench Seat

X N/A Seat already at full forward position.

     Clearance unchanged. No adjustments required.

     Additional clearance available

     Seat moved Forward      mm from the previous position.

     Seat moved Forward      detent positions from the previous position.

     Seat moved Forward, Full Forward position reached.

X 20. Passenger foot positioning. (Indicate final position achieved) (S16.3.3.2)

     20.1 Place feet flat on the toe board; OR (S16.3.3.2.1)

X 20.2 If the feet cannot be placed flat on the toe board, set the feet perpendicular to the lower leg, and rest the heel as far forward on the floor pan as possible; OR (S16.3.3.2.2)

     20.3 If the heels do not touch the floor pan, set the legs as perpendicular to the thighs as possible and set the feet parallel to the floor pan. (S16.3.3.2.2)

X 21. Passenger arm/hand positioning. (S16.3.3.3)

X 21.1 Place the dummy's upper arms adjacent to the torso with the arm centerlines as close to a vertical longitudinal plane as possible. (S16.3.3.3.1)

X 21.2 Place the palms of the dummy in contact with the outer part of the thighs (S16.3.3.3.2)

X 21.3 Place the little fingers in contact with the seat cushion. (S16.3.3.3.3)

X 22. Adjustable head restraints (S16.3.4)

   N/A, there is no head restraint adjustment

   22.1 If the head restraint has an automatic adjustment, leave it where the system positions the restraint after the dummy is placed in the seat. (S16.3.4.1) Go to 23.

   22.2 Adjust each head restraint vertically so that the horizontal plane determined in Data Sheet 14.1 is aligned with the center of gravity (CG) of the dummy head. (S16.3.4.3)

X 22.3 If the above position is not attainable, move the vertical center of the head restraint to the closest detent below the center of the head CG. (S16.3.4.3)

   N/A midpoint position attained in previous step

X Headrest set at nearest detent below the head CG

X 22.4 If the head restraint has a fore and aft adjustment, place the restraint in the foremost position or until contact with the head is made, whichever occurs first. (S16.3.4.4)

X 23. Manual belt adjustment (for tests conducted with a belted dummy) S16.3.5

X N/A, Unbelted test

   23.1 If an adjustable seat belt D-ring anchorage exists, place it in the manufacturer's design position for a 5th percentile adult female. **This information will be supplied by the COTR.** (S16.3.5.1)

Manufacturer's specified position \_\_\_\_\_

Actual Position \_\_\_\_\_

   23.2 Place the Type 2 manual belt around the test dummy and fasten the latch. (S16.3.5.2)

   23.3 Ensure that the dummy's head remains as level as possible. (S16.3.5.3)

   23.4 Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this operation four times. Apply a 9 N (2 lbf) to 18 N (4 lbf) tension load to the lap belt. If the belt system is equipped with a tension-relieving device, introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer. If the belt system is not equipped with a tension-relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor. (S16.3.5.4)

I certify that I have read and performed each instruction.

Signature: Eino L. Sorensen

Date: 4/18/06

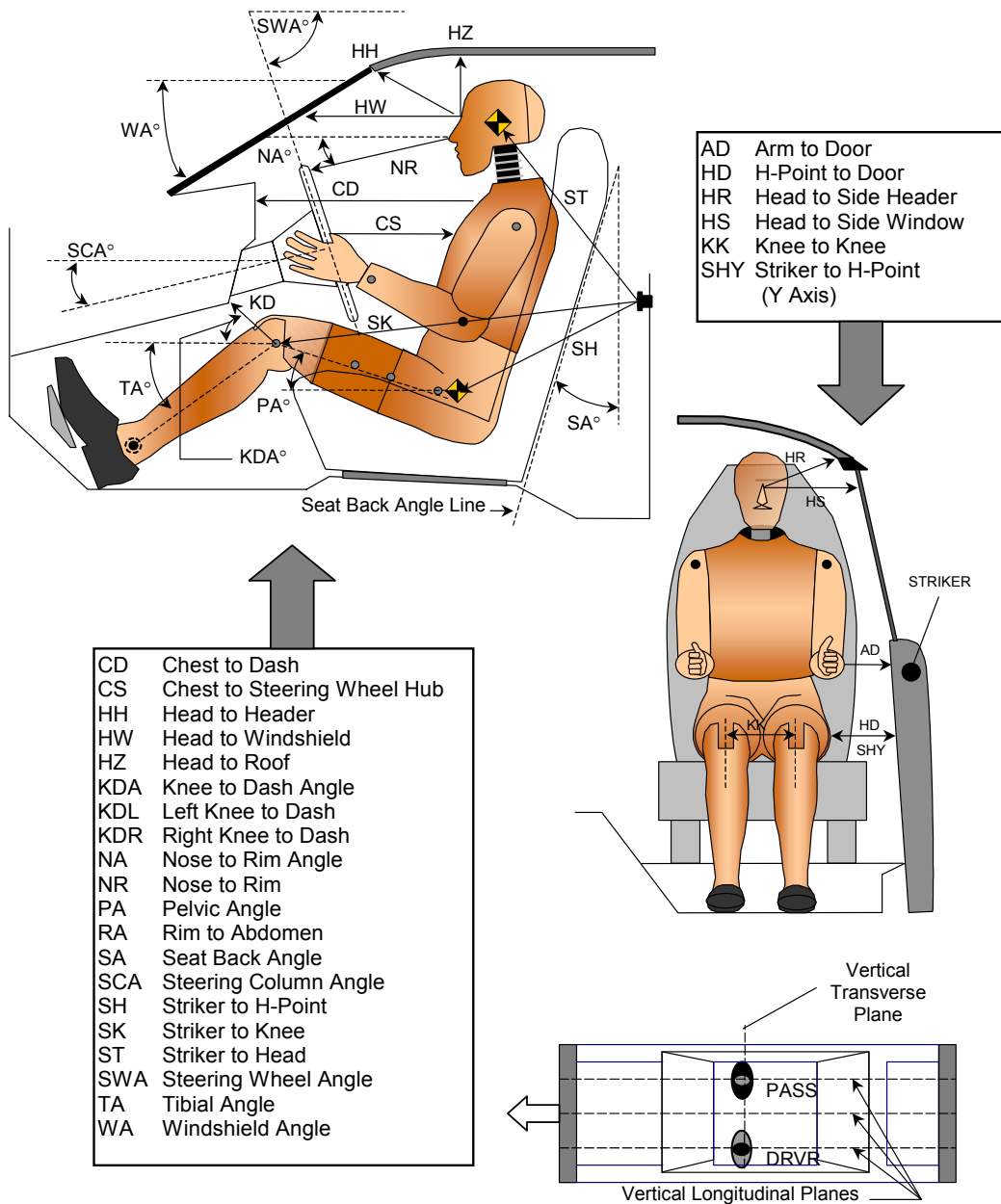
## DATA SHEET 37

### DUMMY MEASUREMENTS

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Eric Peschman

NHTSA No.: C50501  
 Test Date: 4/18/06

### DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS



**DATA SHEET 37**  
**DUMMY MEASUREMENTS**

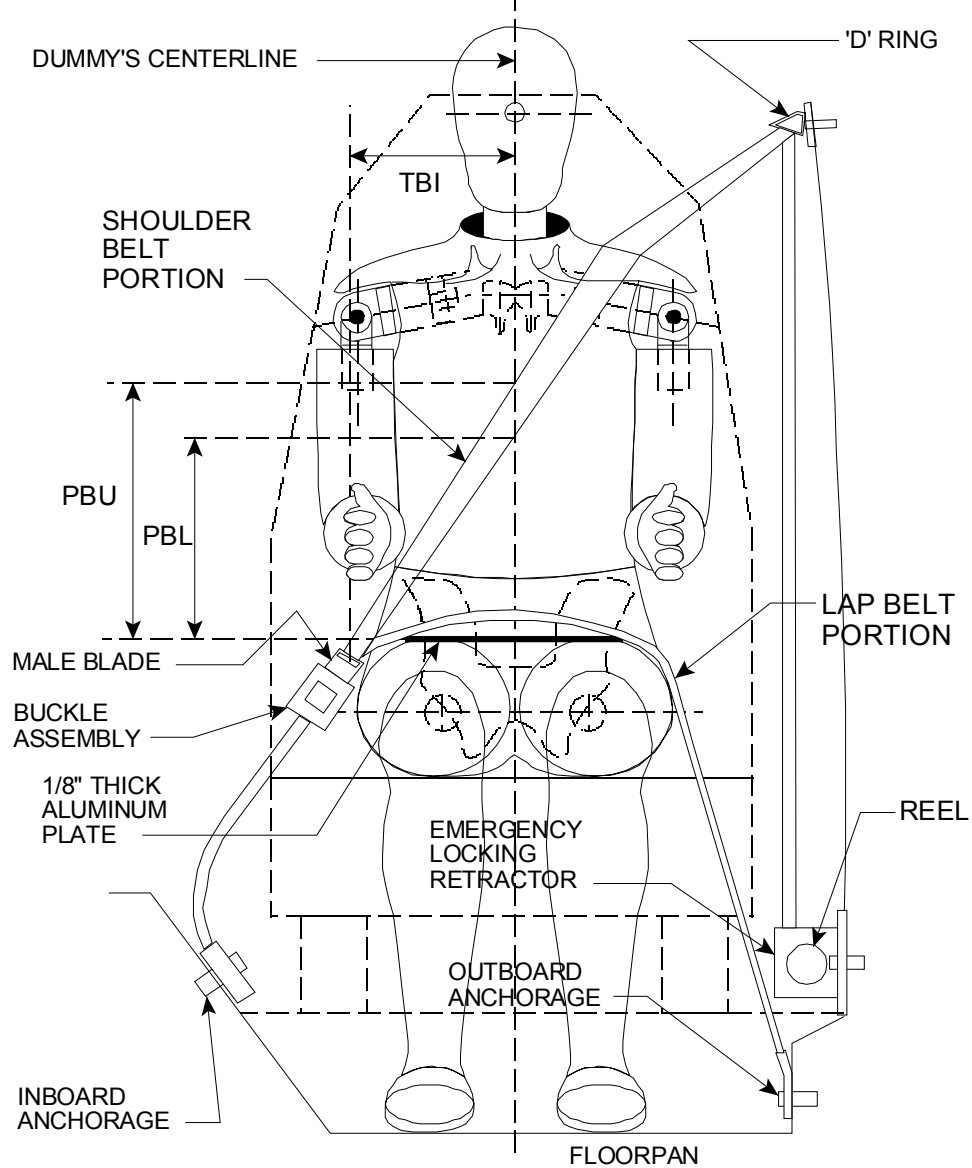
Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance  
Test Technician: Eric Peschman

NHTSA No.: C50501  
Test Date: 4/18/06

**TEST DUMMY POSITION MEASUREMENTS**

Code	Measurement Description	Driver SN 507		Passenger SN 510	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA	Windshield Angle		30.0		
SWA	Steering Wheel Angle		66.4		
SCA	Steering Column Angle		23.0		
SA	Seat Back Angle (On headrest post)		6.2		3.1
HZ	Head to Roof (Z)	201		205	
HH	Head to Header	256		262	
HW	Head to Windshield	529		549	
HR	Head to Side Header (Y)	245		244	
NR	Nose to Rim	278	8.6		
CD	Chest to Dash	463		427	
CS	Chest to Steering Hub	202			
RA	Rim to Abdomen	93			
KDL	Left Knee to Dash	109	34.6	101	
KDR	Right Knee to Dash	118		109	36.6
PA	Pelvic Angle		20.2		21.2
TA	Tibia Angle		46.4		44.8
KK	Knee to Knee (Y)	260		214	
SK	Striker to Knee	664	93.8	668	94.8
ST	Striker to Head	488	24.3	482	28.8
SH	Striker to H-Point	349	108.0	382	113.4
SHY	Striker to H-Point (Y)	277		272	
HS	Head to Side Window	334		334	
HD	H-Point to Door (Y)	231		236	
AD	Arm to Door (Y)	162		162	
AA	Ankle to Ankle	255		174	

## SEAT BELT POSITIONING DATA



### FRONT VIEW OF DUMMY

#### SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
PBU - Top surface of reference to belt upper edge	mm	N/A	N/A
PBL - To surface of reference to belt lower edge	mm	N/A	N/A

## DATA SHEET 38

### CRASH TEST

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Eric Peschman

NHTSA No.: C50501  
 Test Date: 4/18/06

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<u>X</u> 32 to 40 kmph	<u>  </u> 0 to 48 kmph	<u>  </u> 0 to 56 kmph
DRIVER DUMMY:	<u>X</u> 5 <sup>th</sup> female	<u>  </u> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<u>X</u> 5 <sup>th</sup> female	<u>  </u> 50 <sup>th</sup> male	

- ☒ 1. Vehicle underbody painted
- ☒ 2. The speed measuring devices are in place and functioning.
- ☒ 3. The speed measuring devices are 1.0 m from the barrier (spec. 1.5m) and 30 cm from the barrier (spec. is 30 cm)
- ☒ 4. Convertible top is in the closed position.
- ☒ N/A, not a convertible
- ☒ 5. Instrumentation and wires are placed so the motion of the dummies during impact is not affected.
- ☒ 6. Tires inflated to pressure on tire placard or if it does not have a tire placard because it is not a passenger car, then inflated to the tire pressure specified in the owner information.

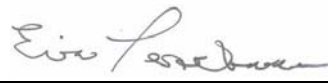
<u>210</u> kpa front left tire	<u>210</u> kpa specified on tire placard or in owner information
<u>210</u> kpa front right tire	<u>210</u> kpa specified on tire placard or in owner information
<u>210</u> kpa rear left tire	<u>210</u> kpa specified on tire placard or in owner information
<u>210</u> kpa rear right tire	<u>210</u> kpa specified on tire placard or in owner information

- ☒ 7. Time zero contacts on barrier in place.
- ☒ 8. Pre test zero and shunt calibration adjustments performed and recorded
- ☒ 9. Dummy temperature meets requirements of section 12.2 of the test procedure.
- ☒ 10. Vehicle hood closed and latched
- ☒ 11. Transmission placed in neutral
- ☒ 12. Parking brake off
- ☒ 13. Ignition in the ON position
- ☒ 14. Doors closed and latched but not locked
- ☒ 15. Posttest zero and shunt calibration checks performed and recorded
- ☒ 16. Actual test speed 39.6 kmph
- ☒ 17. Vehicle rebound from the barrier 81 cm
- ☒ 18. Describe whether the doors open after the test and what method is used to open the doors.
  - ☒ Left Front Door: Door remained closed and latched; Door opened without tools
  - ☒ Right Front Door: Door remained closed and latched; Door opened without tools
  - ☒ Left Rear Door: Door remained closed and latched; Door opened without tools
  - ☒ Right Rear Door: Door remained closed and latched; Door opened without tools

- ☒ 19. Describe the contact points of the dummy with the interior of the vehicle.
- ☒ Driver Dummy: Head to Air Bag, Front and Side Header; Chest and Abdomen to Air Bag; Knees to Knee Bolster
- ☒ Passenger Dummy: Head to Air Bag and Headrest; Knees to Glove Box

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 4/18/06



# DATA SHEET NO. 40

## ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 4/18/06

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<input checked="" type="checkbox"/> 32 to 40 kmph	<input type="checkbox"/> 0 to 48 kmph	<input type="checkbox"/> 0 to 56 kmph
DRIVER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	

Vehicle Year/Make/Model/Body Style:	2005 Hyundai Elantra 4 Door
VIN:	KMHDN46DX5U934912
Wheelbase:	2610 mm
Build Date:	6/16/04
Vehicle Size Category:	3
Test Weight:	1467.4 kg
Front Overhang:	910 mm
Overall Width:	1728 mm
Overall Length Center:	4506 mm

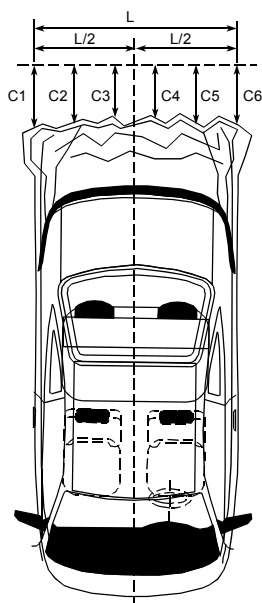
Accelerometer Data	
Location:	As per measurements on Data Sheet 33
Linearity:	>99.9%

Integration Algorithm:	Trapezoidal
Vehicle Impact Speed:	39.6 kmph
Time of Separation:	111.8 ms
Velocity Change:	46.2 kmph

## CRUSH PROFILE

Collision Deformation Classification: 12FDEW6  
 Midpoint of Damage: Vehicle Longitudinal Centerline  
 Damage Region Length (mm): 1525  
 Impact Mode: Frontal Barrier

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	4316	4193	123
C2	Crush zone 2 at left side	mm	4422	4180	242
C3	Crush zone 3 at left side	mm	4482	4221	261
C4	Crush zone 4 at right side	mm	4481	4178	303
C5	Crush zone 5 at right side	mm	4421	4185	236
C6	Crush zone 6 at right side	mm	4315	4170	145



### REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Zalk

Date: 4/18/04

# DATA SHEET 41

## WINDSHIELD MOUNTING (FMVSS 212)

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 4/18/06

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<input checked="" type="checkbox"/> 32 to 40 kmph	<input type="checkbox"/> 0 to 48 kmph	<input type="checkbox"/> 0 to 56 kmph
DRIVER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	

1. Pre-Crash
  - ☒ 1.1 Describe from visual inspection how the windshield is mounted and describe any trim material.  
  
Retained with glue  
Plastic and Rubber trim
  - ☒ 1.2 Mark the longitudinal centerline of the windshield
  - ☒ 1.3 Measure pre-crash A, B, and C for the left side and record in the chart below.
  - ☒ 1.4 Measure pre-crash C, D, and E for the right side and record in the chart below.
  - ☒ 1.5 Measure from the edge of the retainer or molding to the edge of the windshield.  
Dimension G (mm): 19
2. Post Crash
  - ☒ 2.1 Can a single thickness of copier type paper (as small a piece as necessary) slide between the windshield and the vehicle body?
 

☒ No – Pass. Skip to the table of measurements, complete it by repeating the pre-crash measurements in the post crash column, and calculate the retention percentage, which will be 100%.  
☐ Yes, go to 2.2
  - ☐ 2.2 Visibly mark the beginning and end of the portions of the periphery where the paper slides between the windshield and the vehicle body.
  - ☐ 2.3 Measure and record post-crash A, B, C, D, E, and F such that the measurements do not include any of the parts of the windshield where the paper slides between the windshield and the vehicle body.
  - ☐ 2.4 Calculate and record the percent retention for the right and left side of the windshield.
  - ☐ 2.5 Is total right side percent retention less than 75%?
 

☐ Yes, Fail  
☐ No, Pass
  - ☐ 2.6 Is total left side percent retention less than 75%?
 

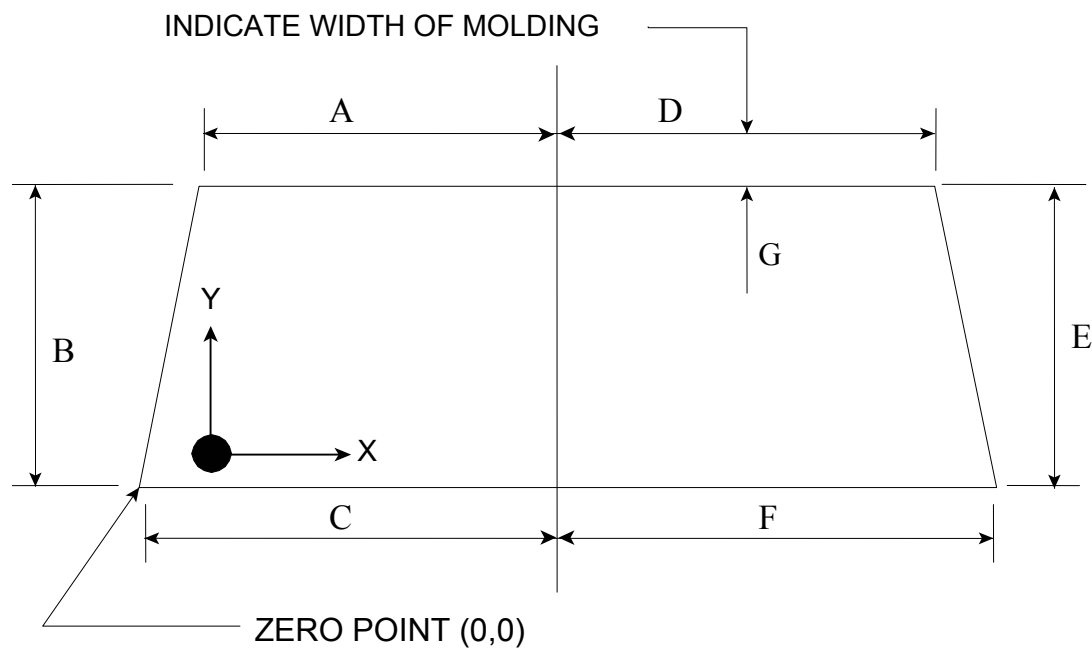
☐ Yes, Fail  
☐ No, Pass

### WINDSHIELD RETENTION MEASUREMENTS

	Dimension	Pre-Crash (mm)	Post-Crash (mm)	Percent Retention (Post-Test ÷ Pre-Crash)
Left Side	A	546	546	100%
	B	779	779	100%
	C	723	723	100%
	Total	2048	2048	100%
Right Side	D	546	546	100%
	E	779	779	100%
	F	723	723	100%
	Total	2048	2048	100%

Indicate area of mounting failure. NONE

### FRONT VIEW OF WINDSHIELD



REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Zuhl

Date: 4/18/04

**DATA SHEET 42**  
**WINDSHIELD ZONE INTRUSION (FMVSS 219)**

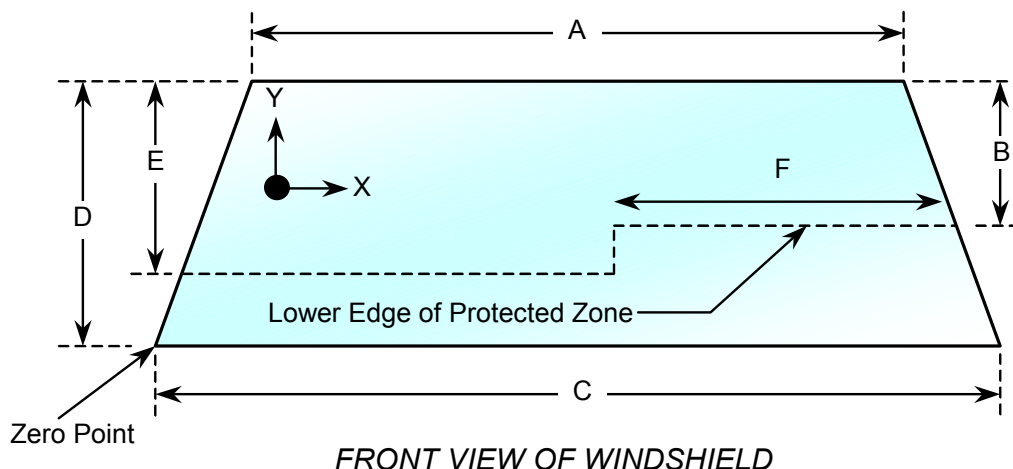
Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Wayne Dahlke

NHTSA No.: C50501  
 Test Date: 4/18/06

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<input checked="" type="checkbox"/> 32 to 40 kmph	<input type="checkbox"/> 0 to 48 kmph	<input type="checkbox"/> 0 to 56 kmph
DRIVER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	

- ☒ 1. Place a 165 mm diameter rigid sphere, with a mass of 6.8 kg on the instrument panel so that it is simultaneously touching the instrument panel and the windshield. (571.219 S6.1(a))
- ☒ 2. Roll the sphere from one side of the windshield to the other while marking on the windshield where the sphere contacts the windshield. (571.219 S6.1(b))
- ☒ 3. From the outermost contactable points on the windshield draw a horizontal line to the edges of the windshield. (571.219 S6.1(b))
- ☒ 4. Draw a line on the inner surface of the windshield that is 13 mm below the line determined in items 2 and 3
- ☒ 5. After the crash test, record any points where a part of the exterior of the vehicle has marked, penetrated, or broken the windshield.

Provide all dimensions necessary to reproduce the protected area.



## WINDSHIELD DIMENSIONS

Item	Units	Value
A	mm	1091
B	mm	501
C	mm	1446
D	mm	779
E	mm	515
F	mm	731

### AREA OF PROTECTED ZONE FAILURES:

- B. Provide coordinates of the area that the protected zone was penetrated more than 0.25 inches by a vehicle component other than one which is normally in contact with the windshield.

X	Y
NONE	

- C. Provide coordinates of the area beneath the protected zone template that the inner surface of the windshield was penetrated by a vehicle component.

X	Y
NONE	

### REMARKS:

I certify that I have read and performed each instruction.

Signature:

Wayne Zuhl

Date:

4/18/04

### DATA SHEET 43

#### FUEL SYSTEM INTEGRITY (FMVSS 301)

Test Vehicle: 2005 Hyundai Elantra 4 Door  
Test Program: FMVSS 208 Compliance  
Test Technician: Eric Peschman

NHTSA No.: C50501  
Test Date: 4/18/06

TYPE OF IMPACT:	25 mph Unbelted Flat Frontal
-----------------	------------------------------

#### Stoddard Solvent Spillage Measurements

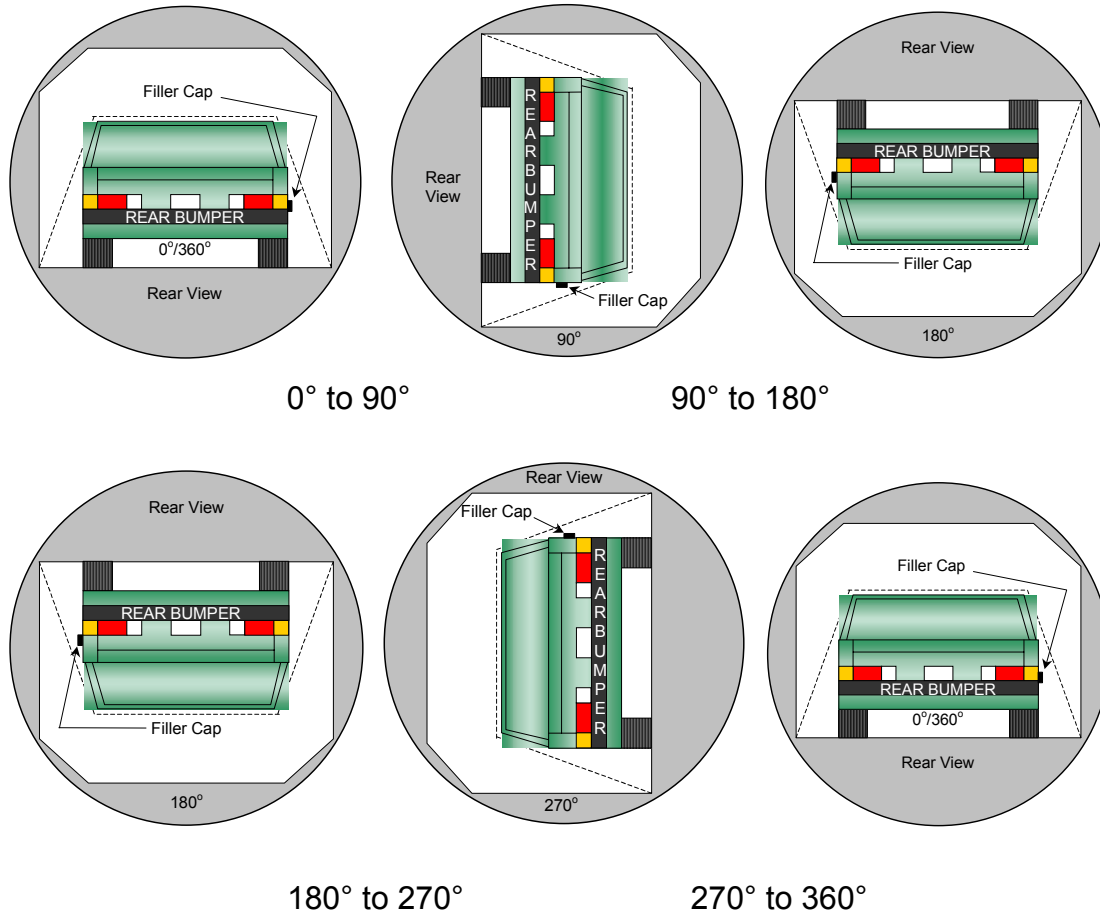
- A. From impact until vehicle motion ceases: 0.0 grams  
(Maximum Allowable = 28 grams)
- B. For the 5 minute period after motion ceases: 0.0 grams  
(Maximum Allowable = 142 grams)
- C. For the following 25 minutes: 0.0 grams  
(Maximum Allowable = 28 grams/minute)
- D. Spillage: None

REMARKS:

**DATA SHEET NO. 41**  
**FMVSS 301 STATIC ROLLOVER DATA**

Test Vehicle: 2005 Hyundai Elantra 4 Door  
 Test Program: FMVSS 208 Compliance

NHTSA No.: C50501  
 Test Date: 4/18/06



1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent spillage locations: None

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (grams)
0° to 90°	170	300	0.0
90° to 180°	140	300	0.0
180° to 270°	145	300	0.0
270° to 360°	150	300	0.0



**APPENDIX A**  
**CRASH TEST DATA**

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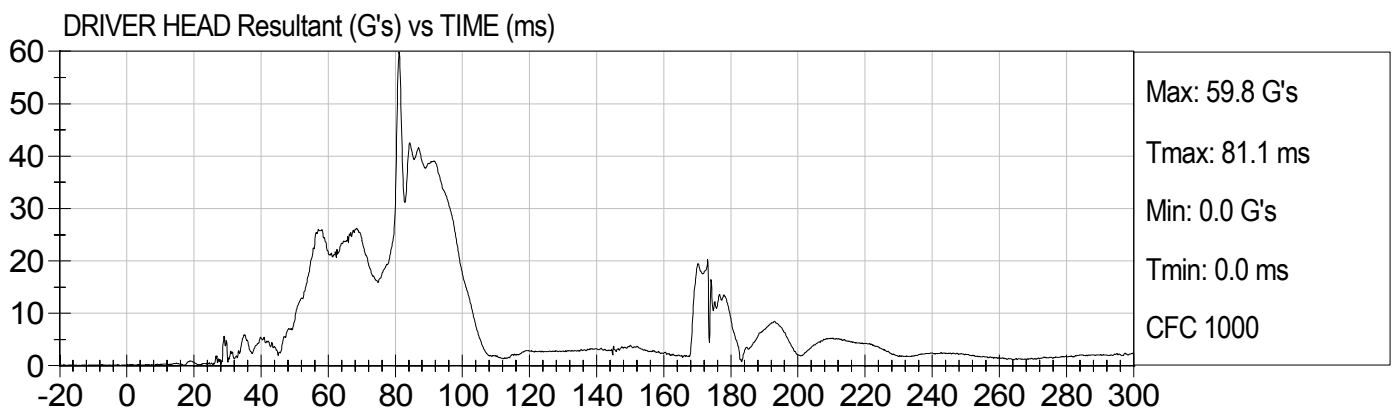
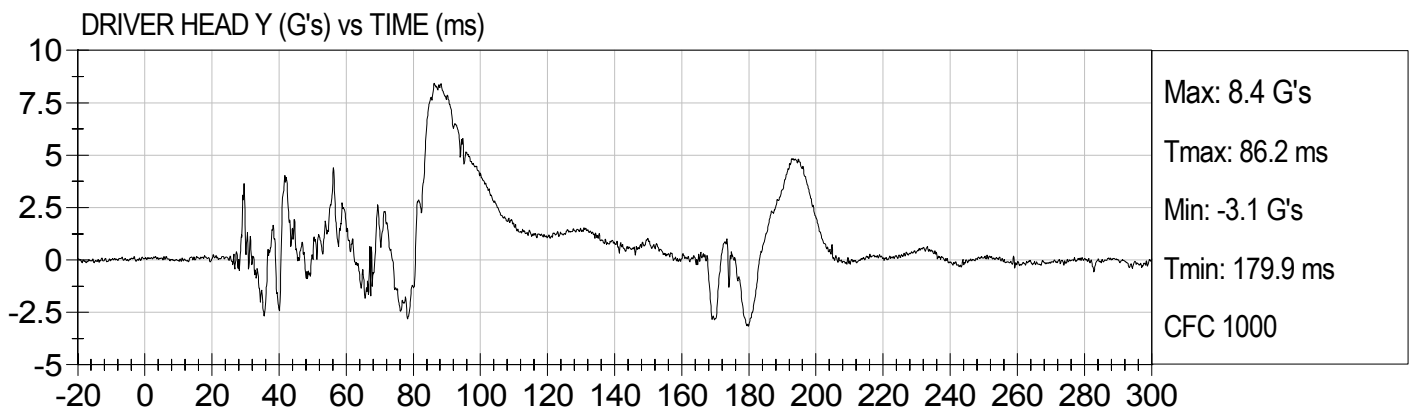
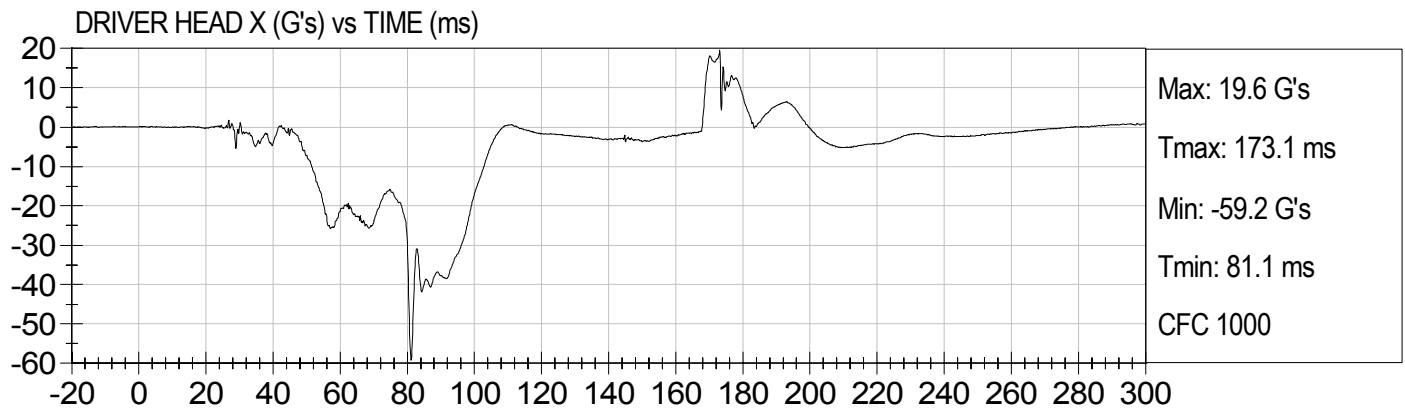
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25 MPH FRONTAL UNBELTED  
2005 HYUNDAI ELANTRA (C50501)

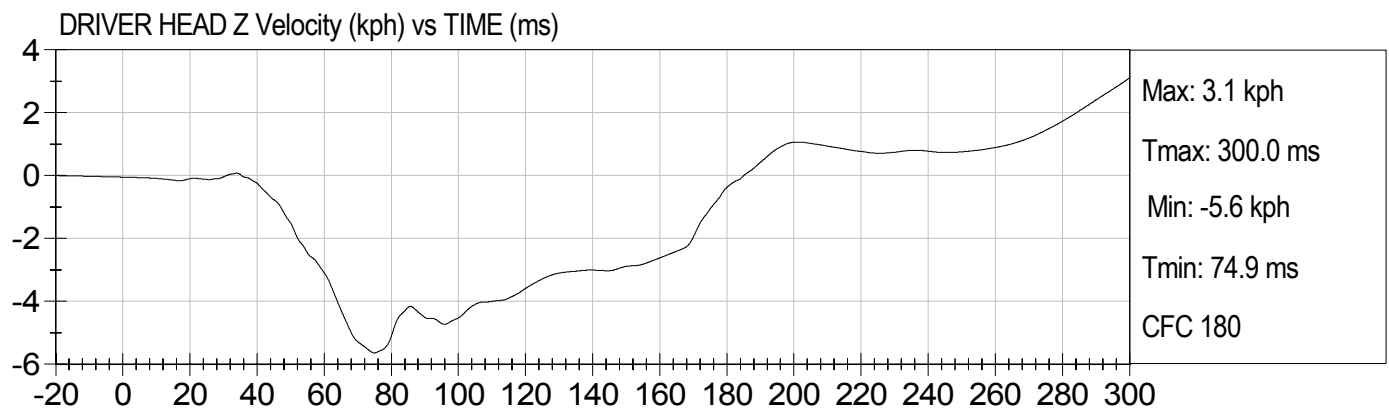
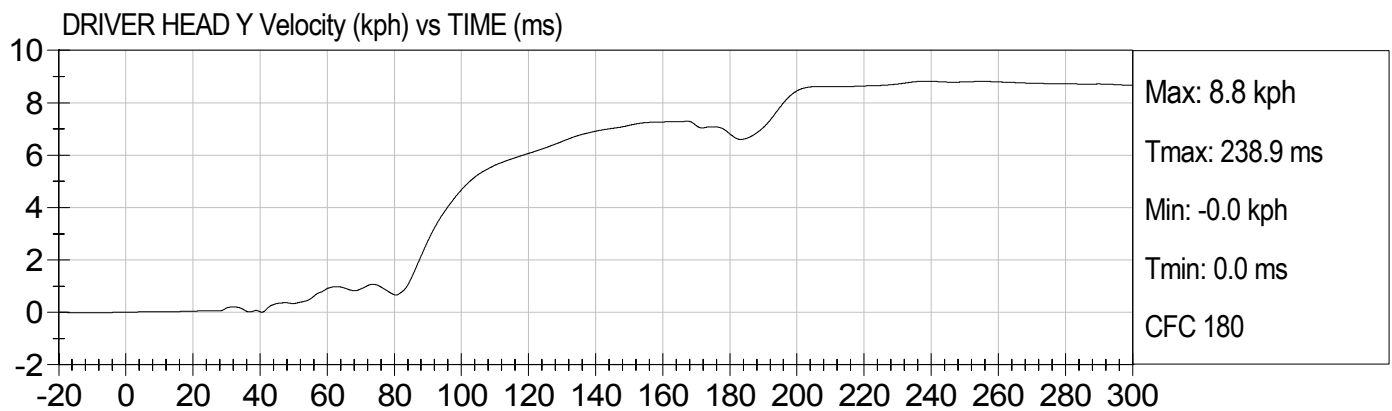
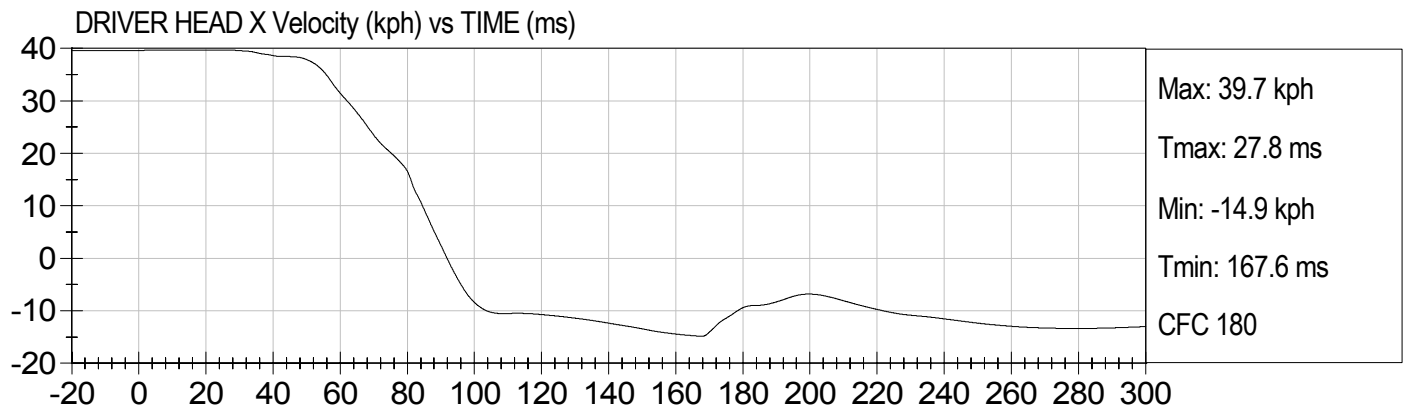
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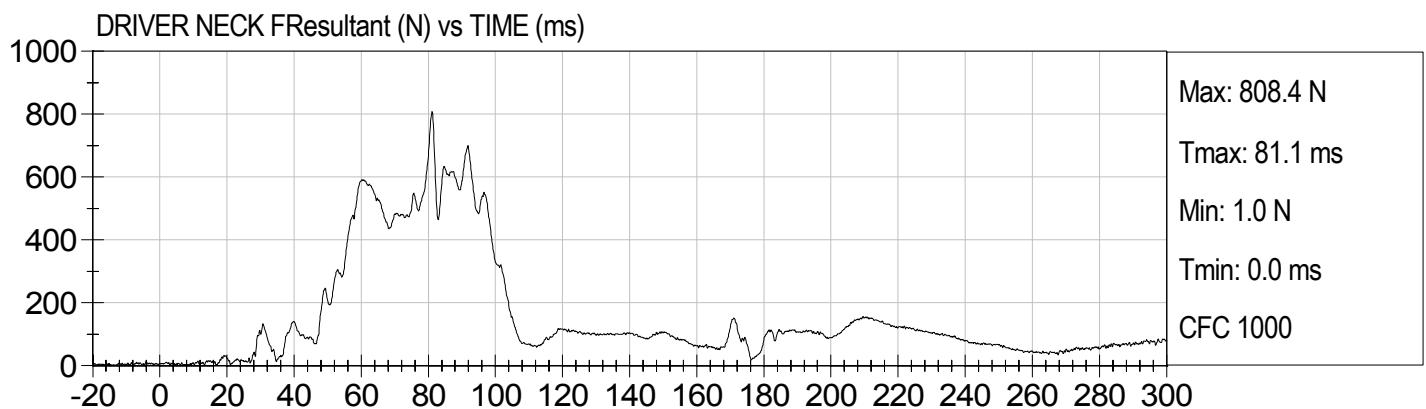
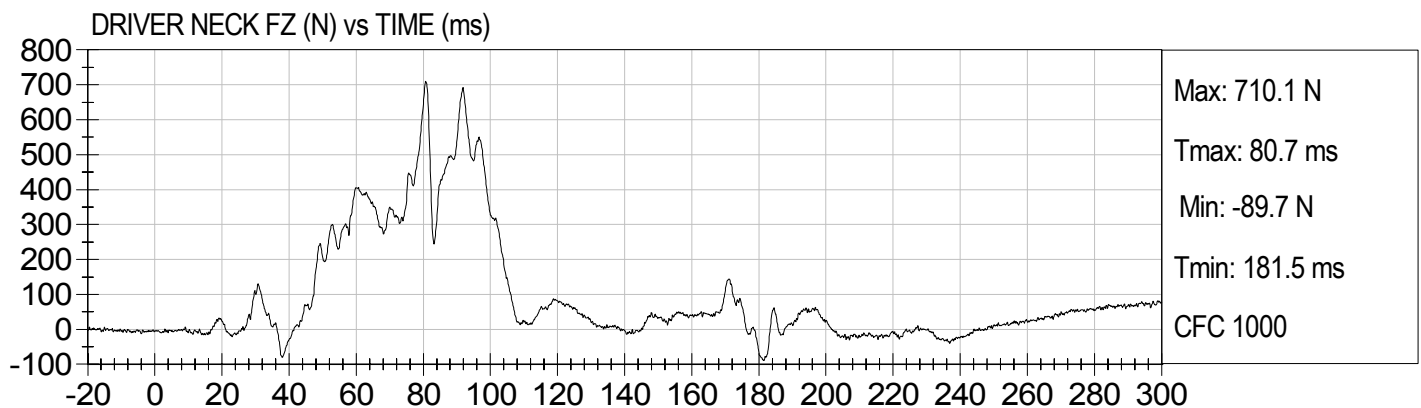
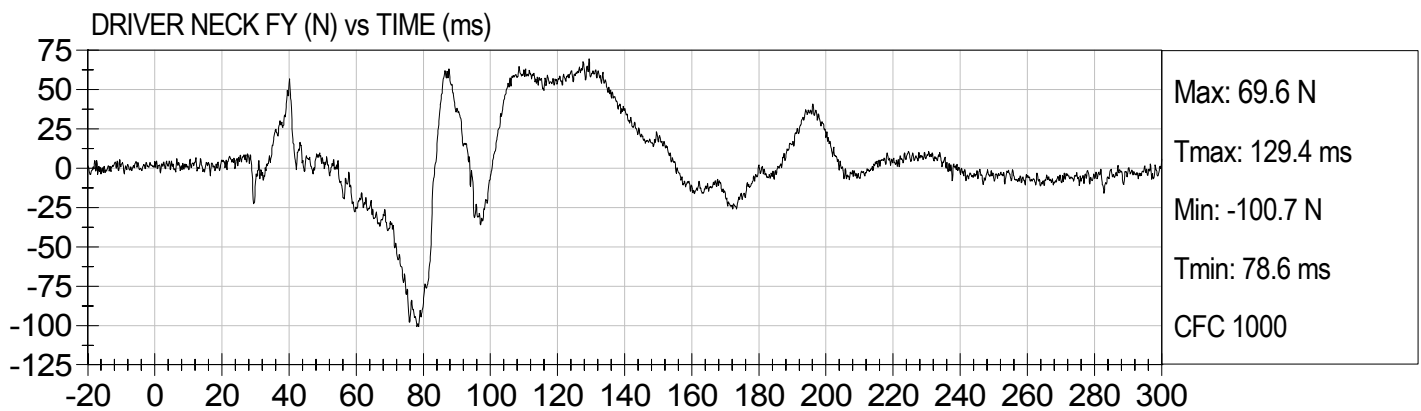
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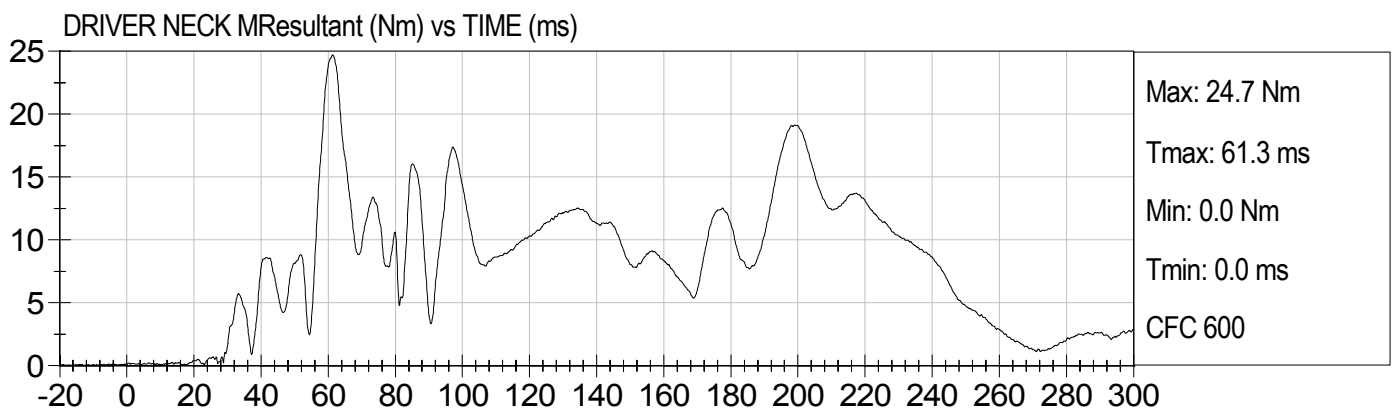
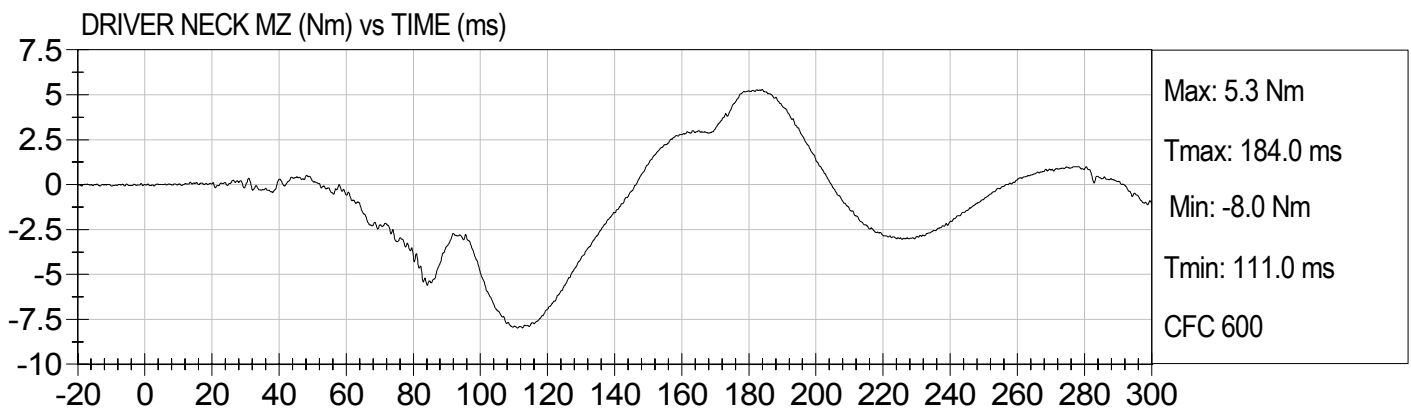
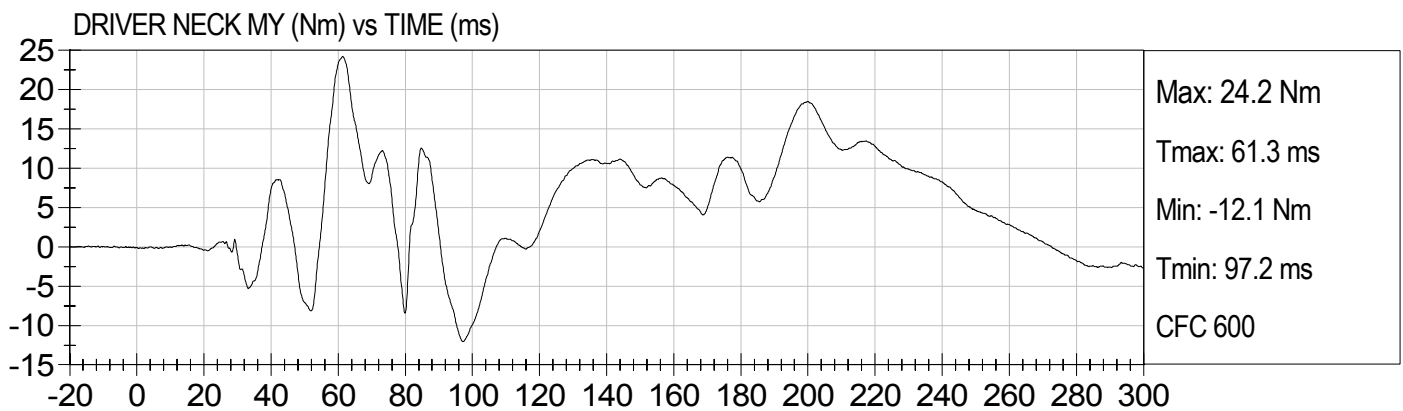
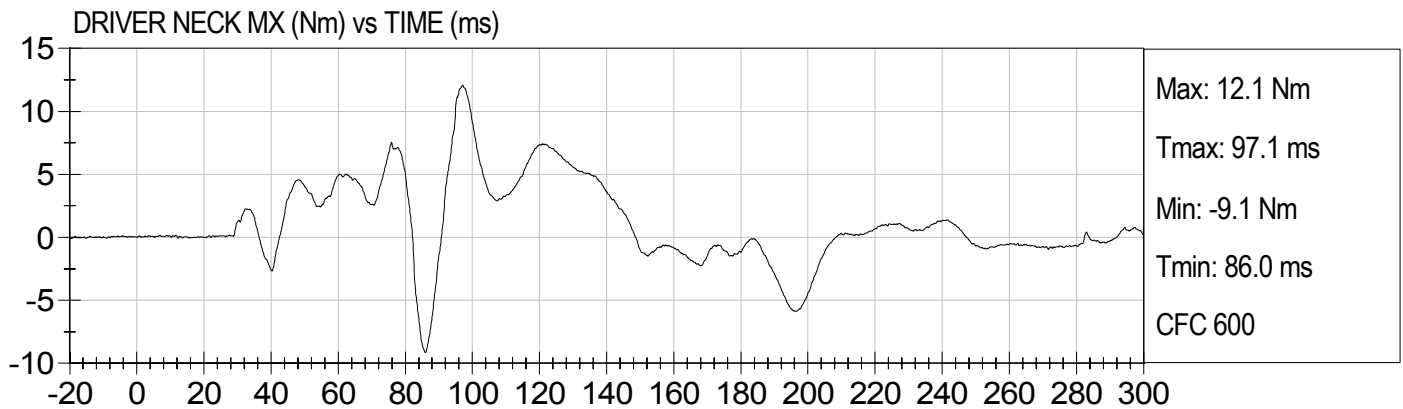
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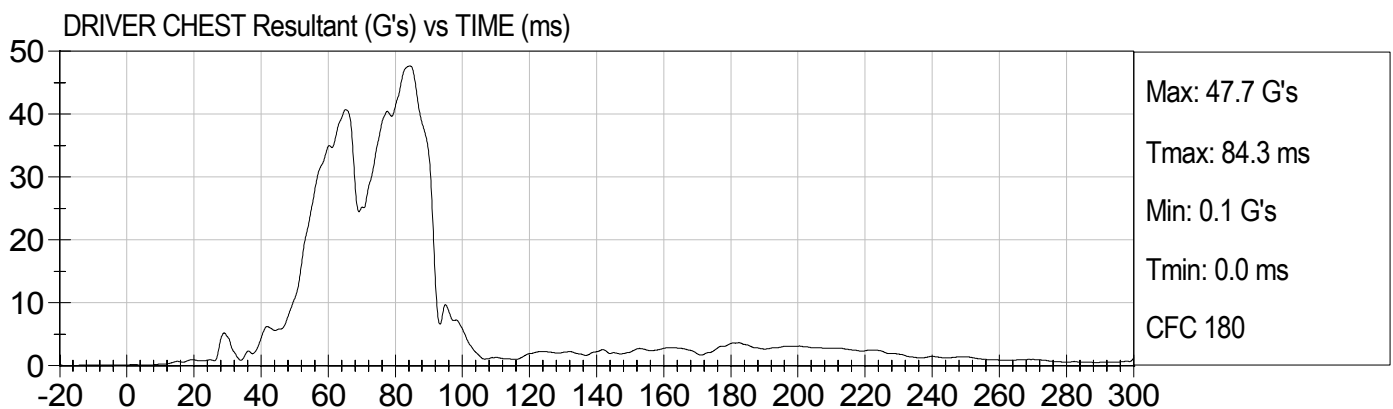
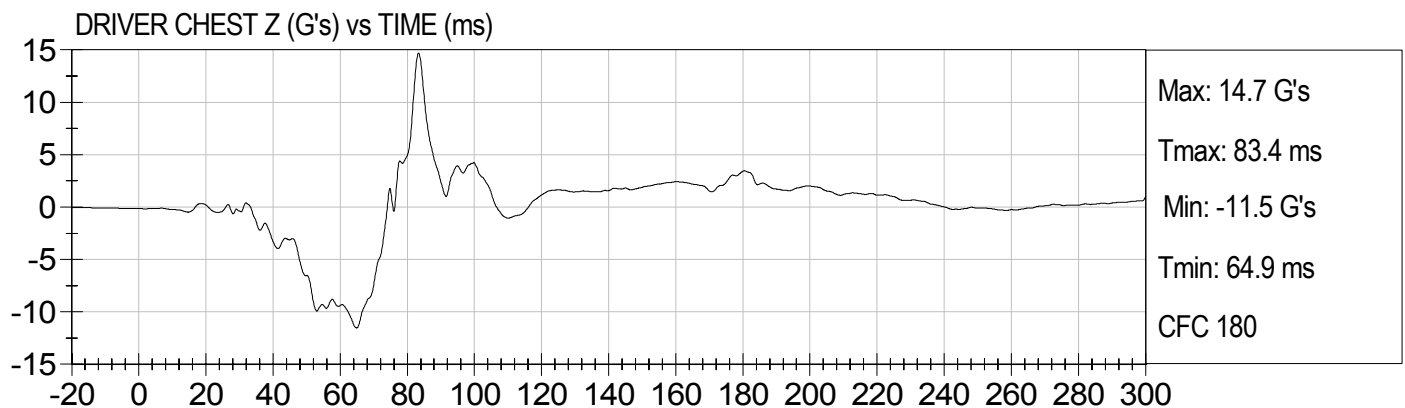
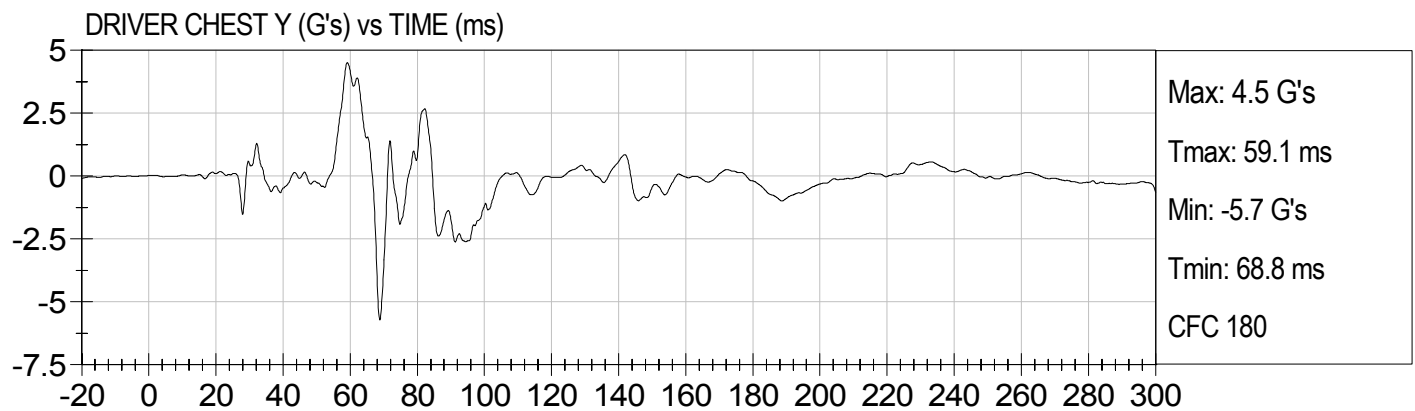
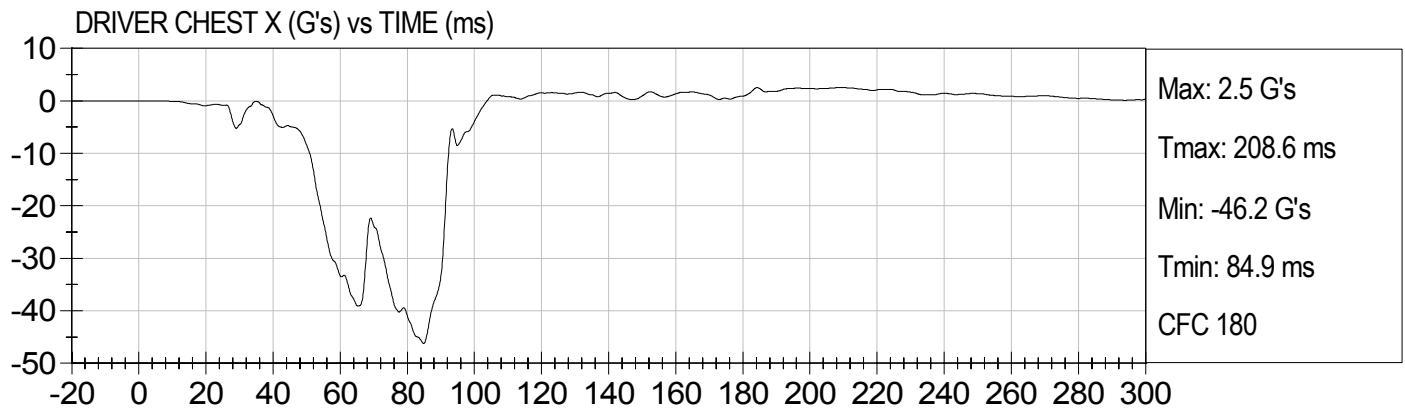






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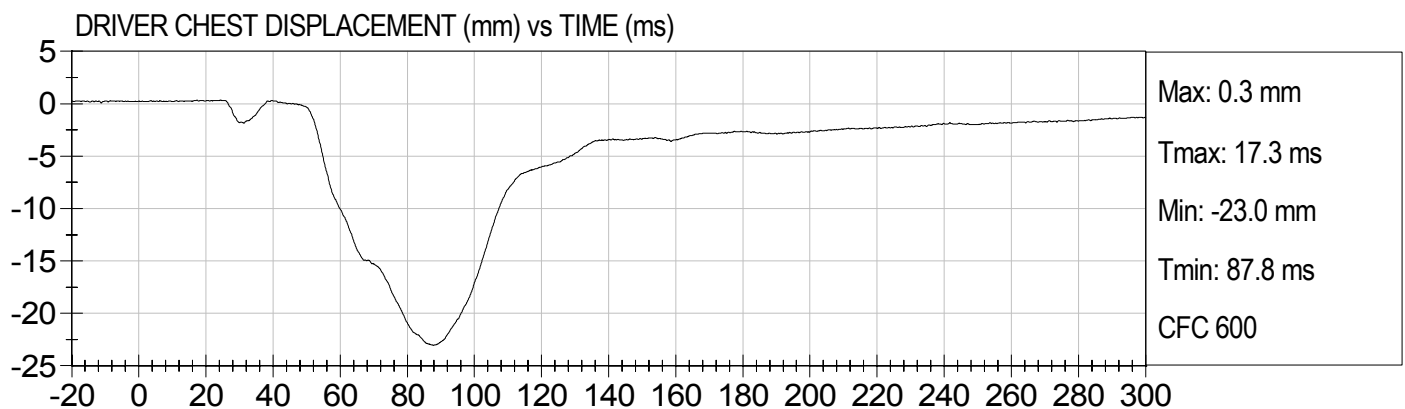
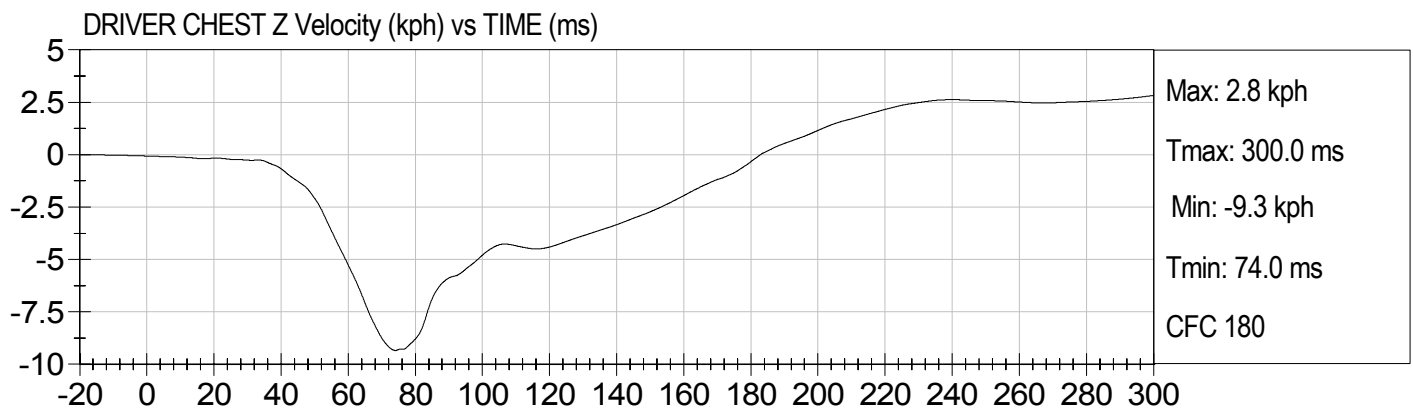
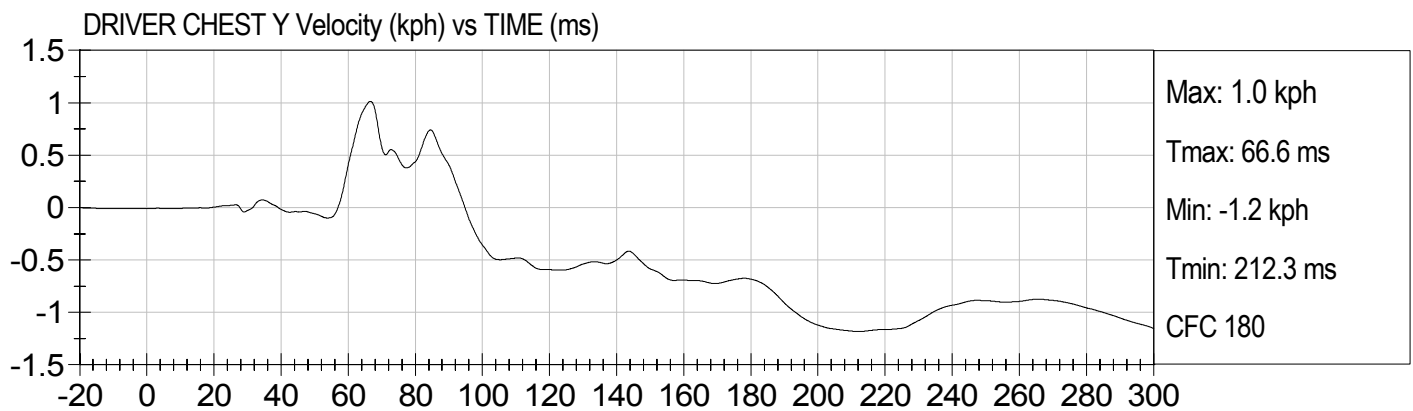
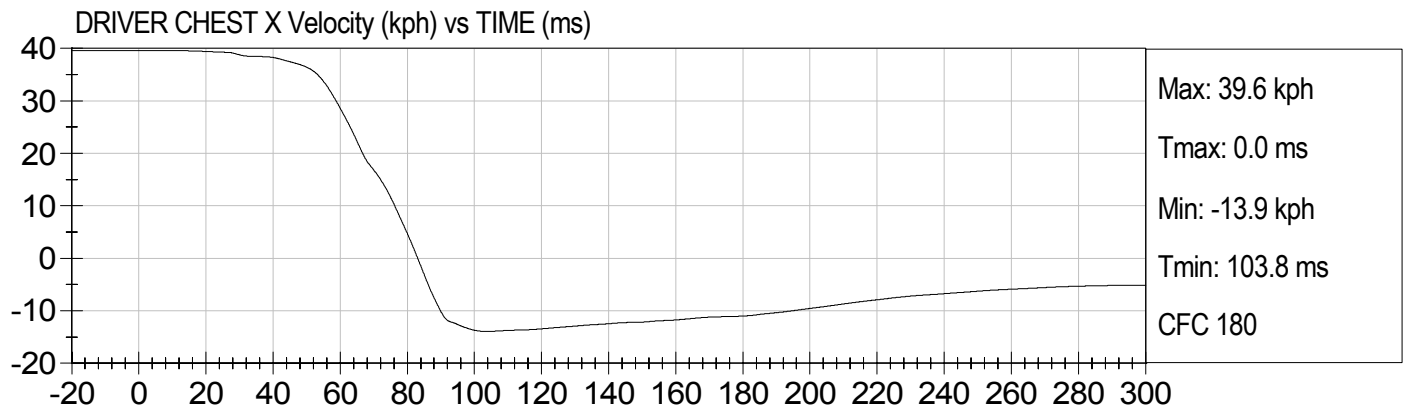
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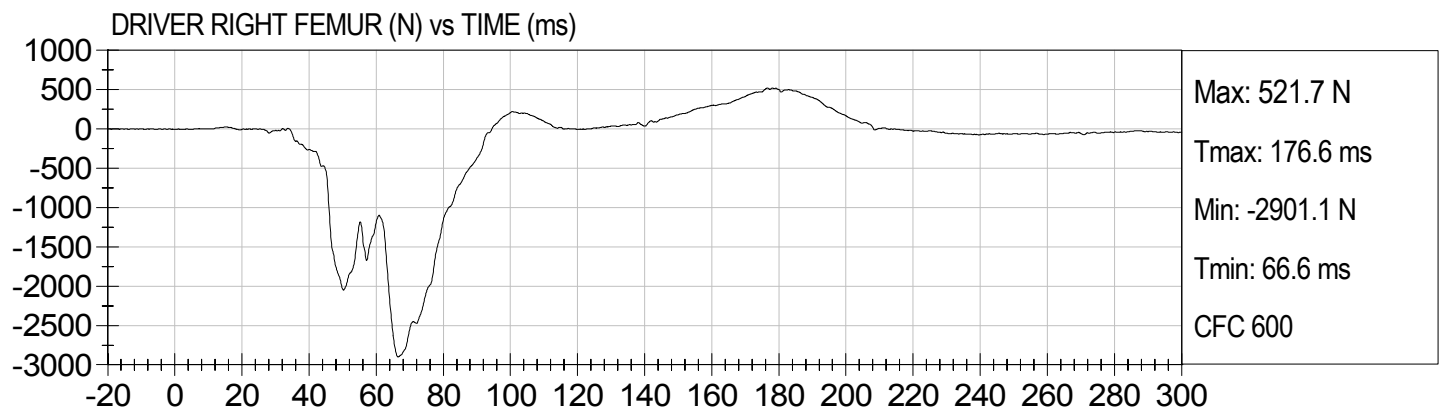
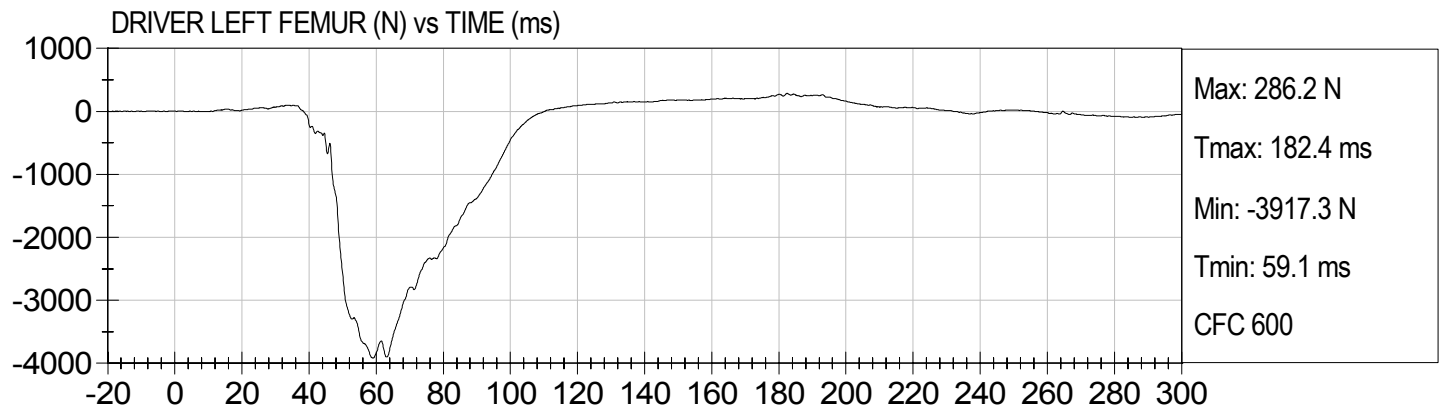
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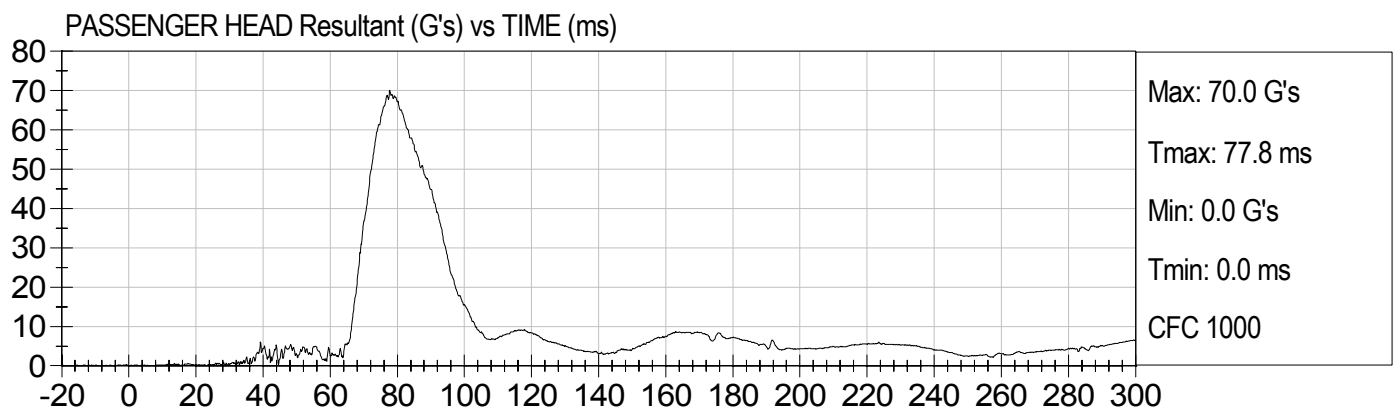
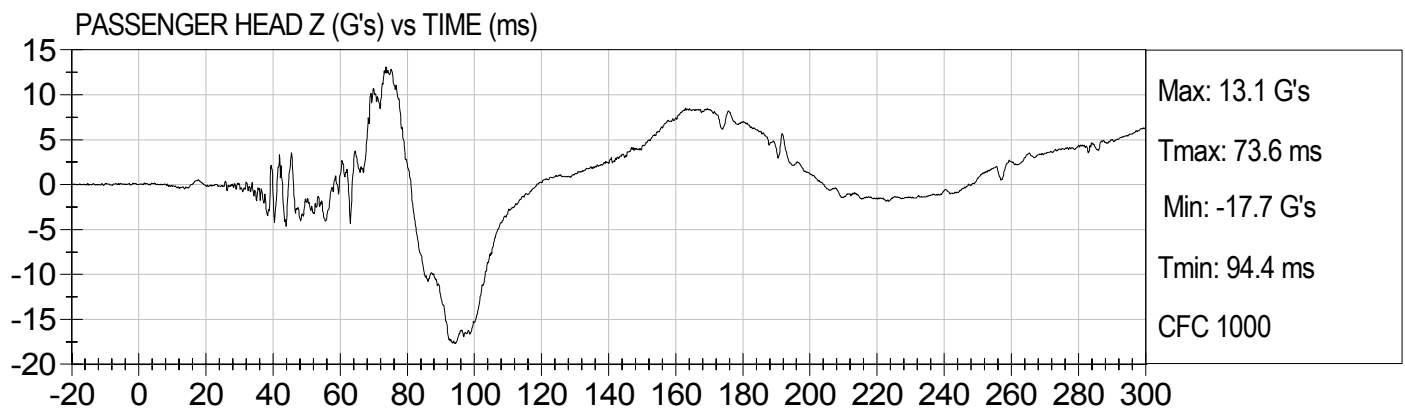
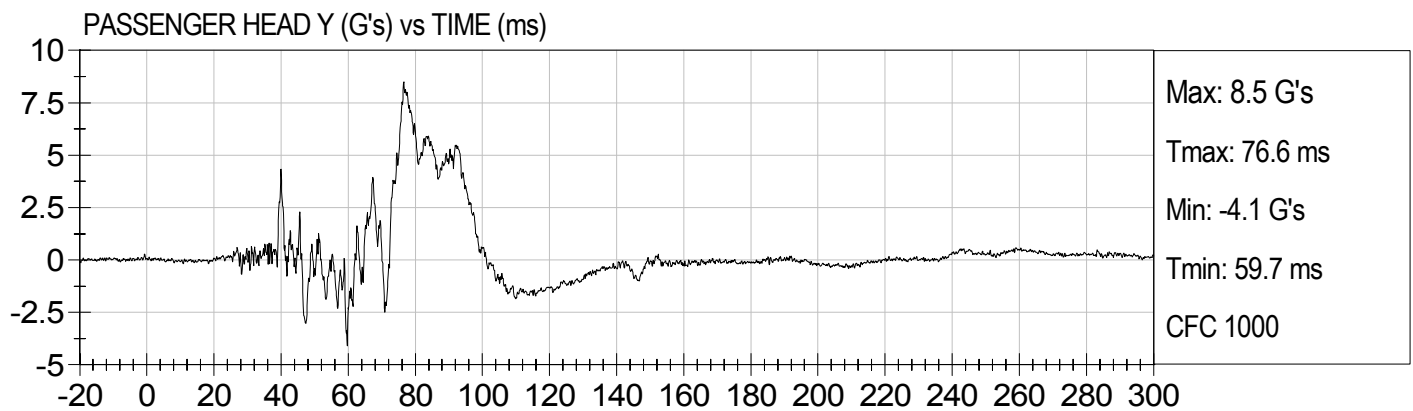
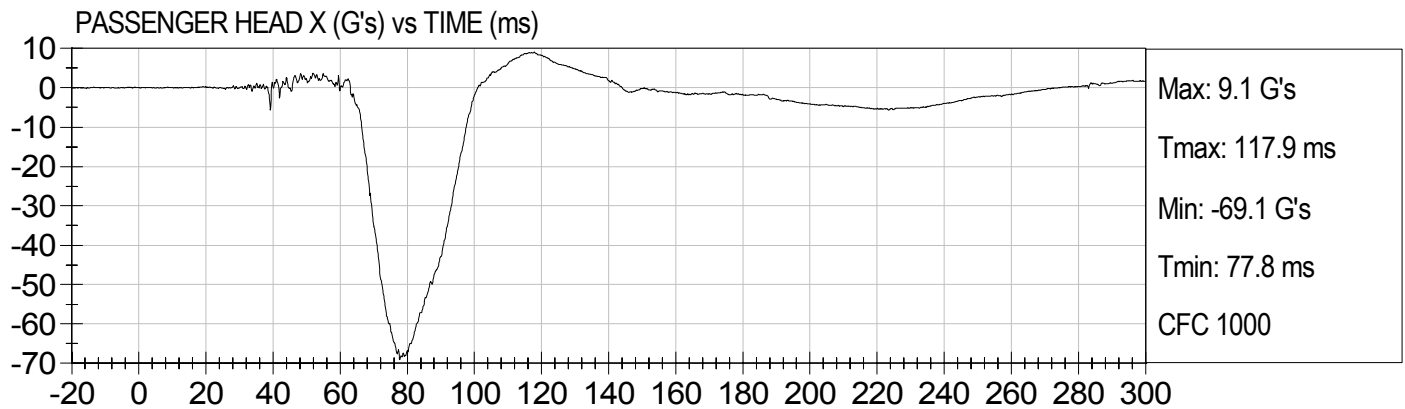
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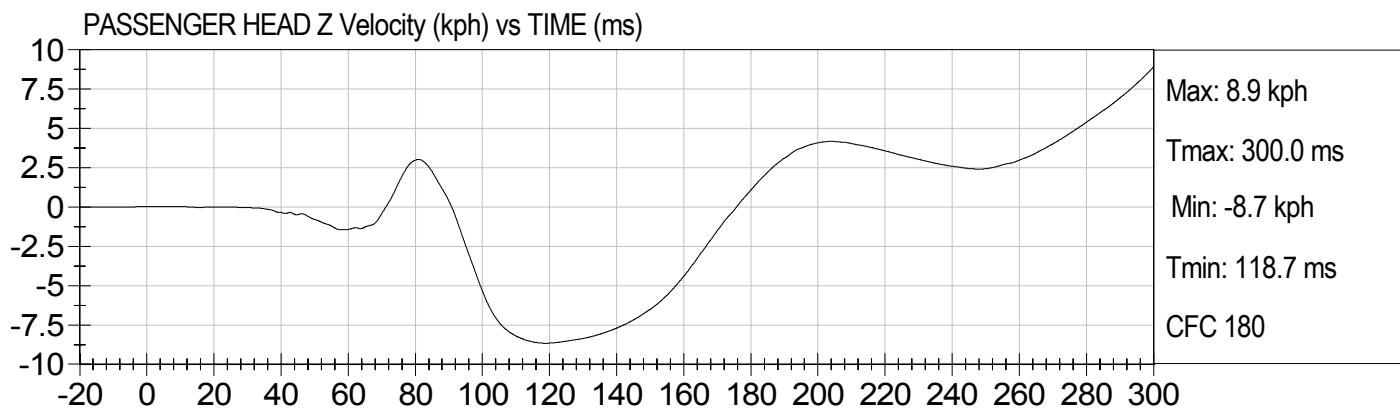
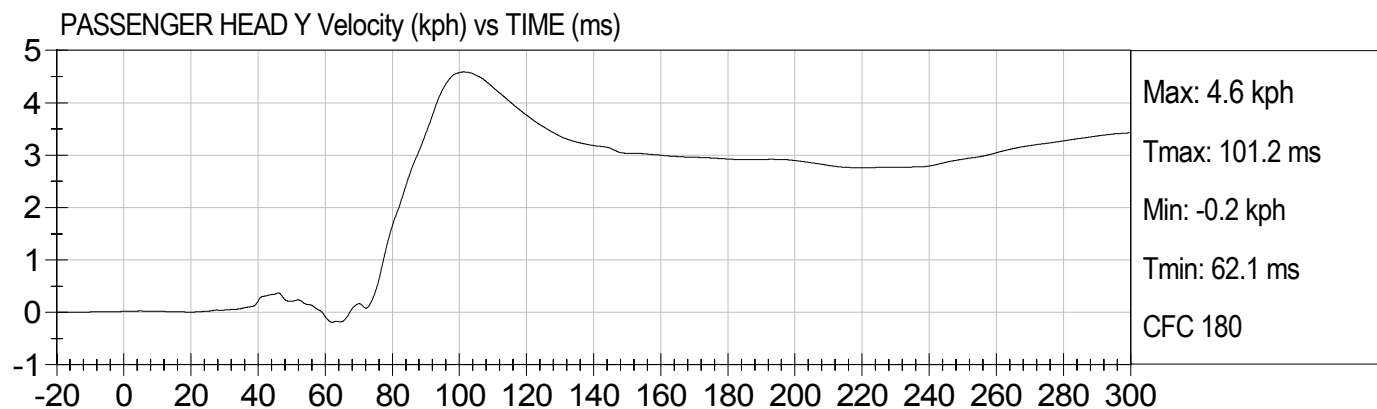
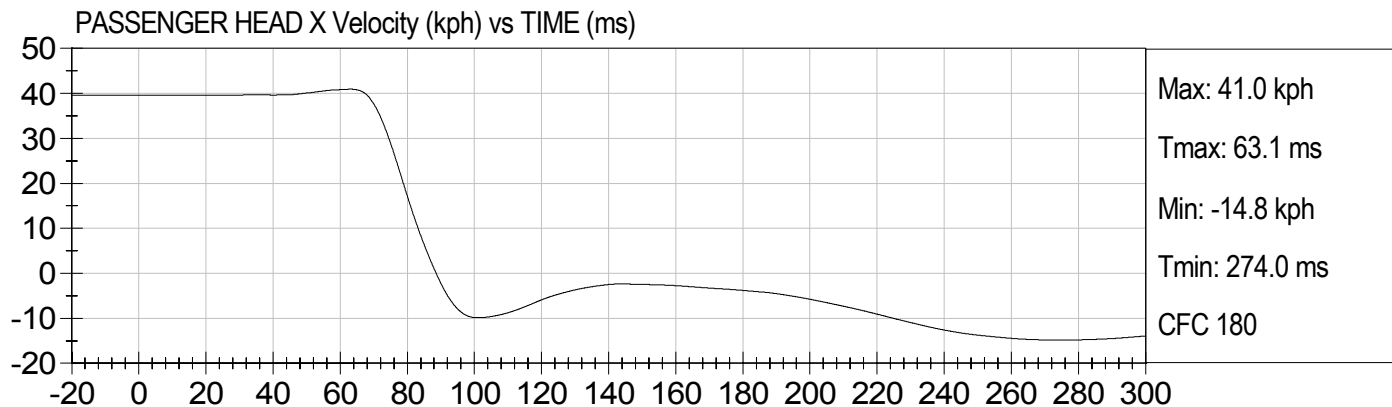
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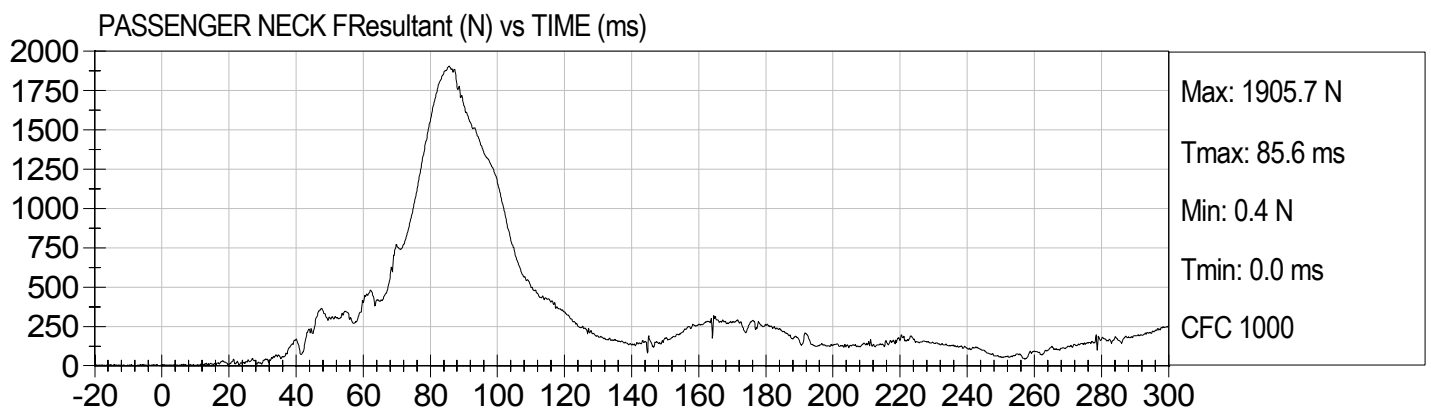
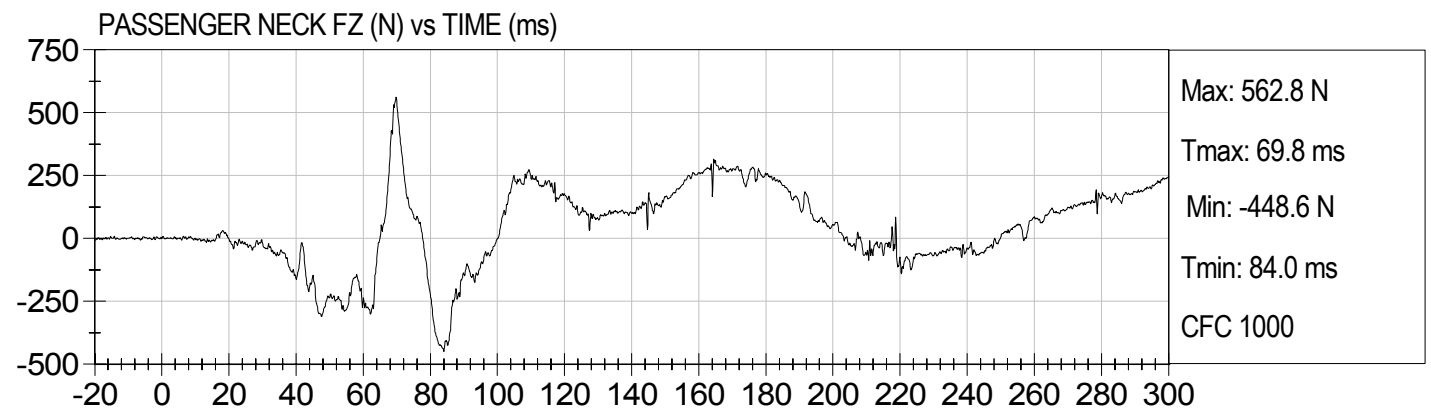
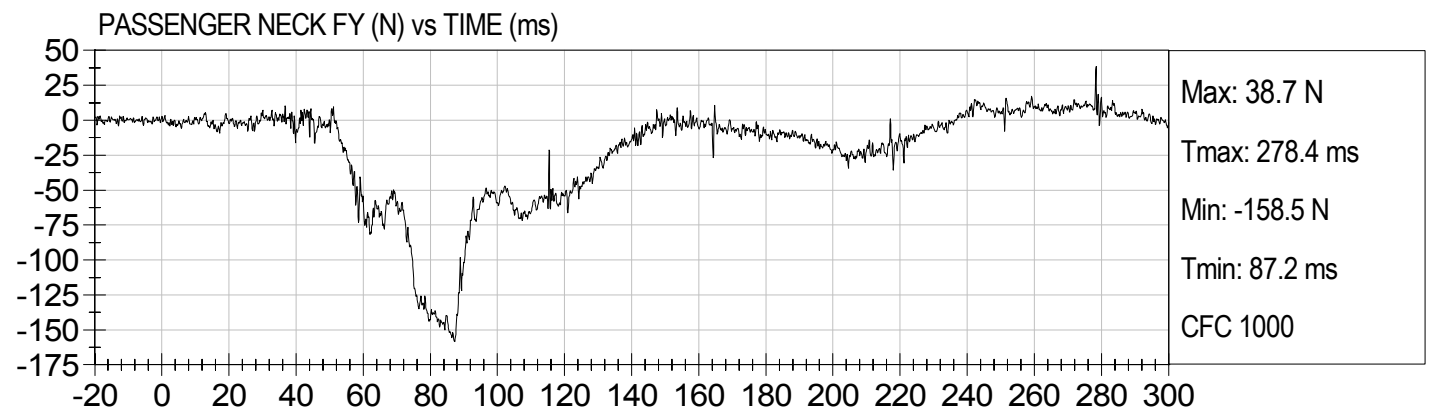
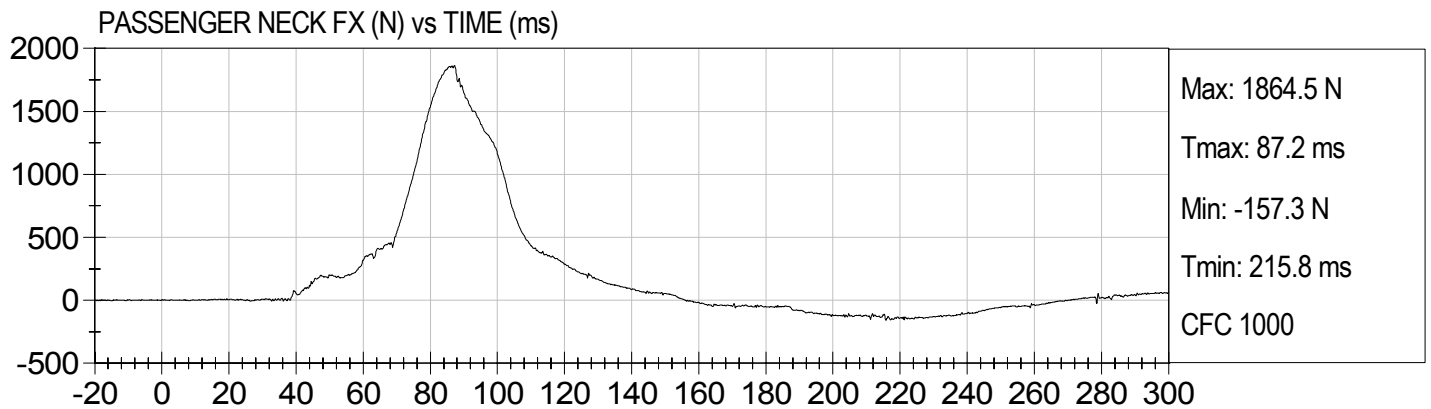
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2005 HYUNDAI ELANTRA (C50501)

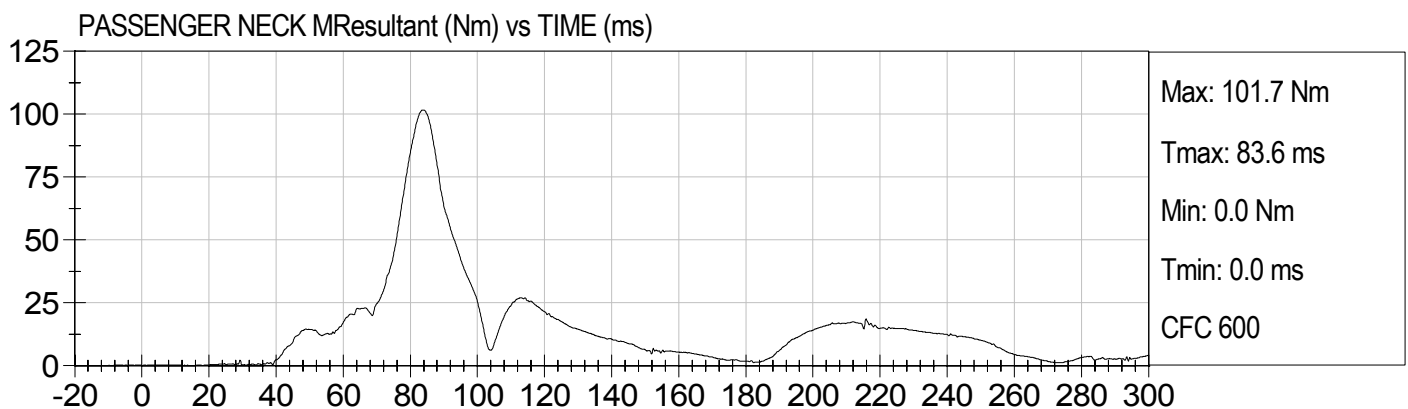
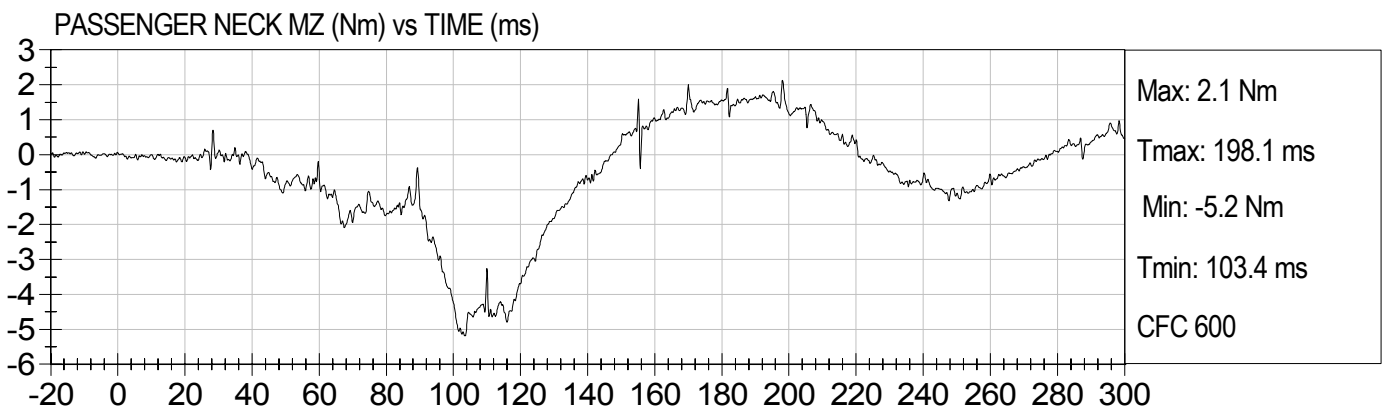
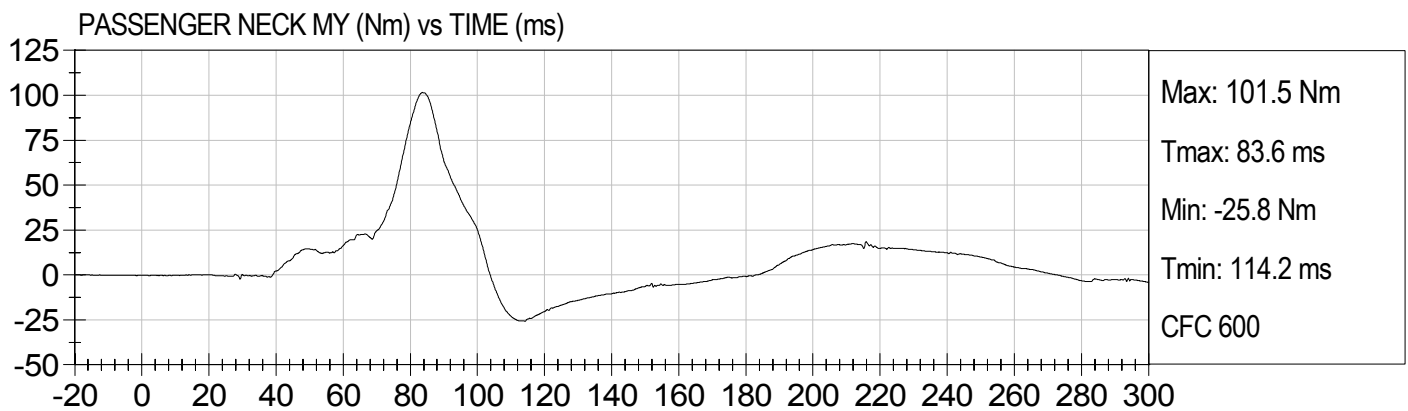
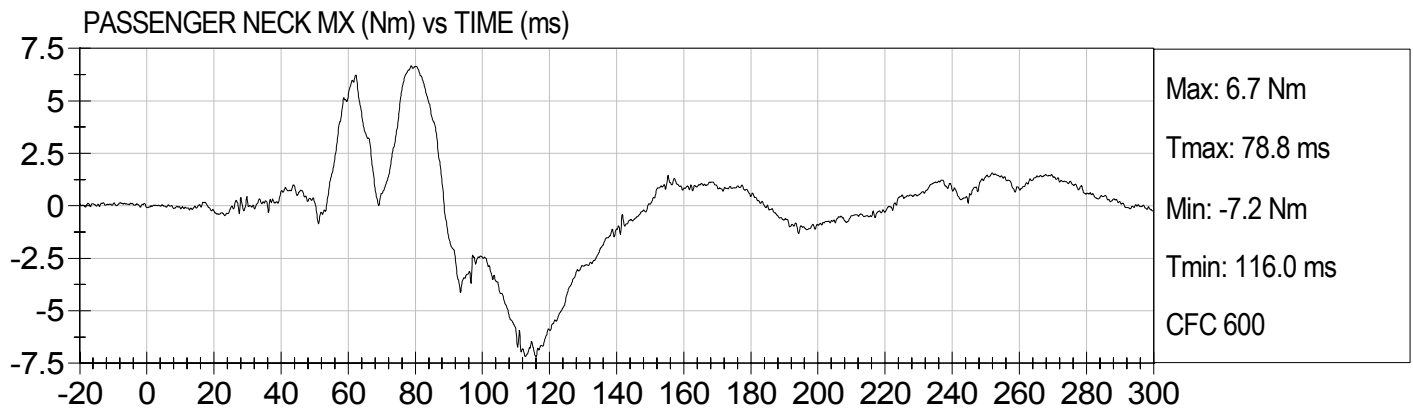
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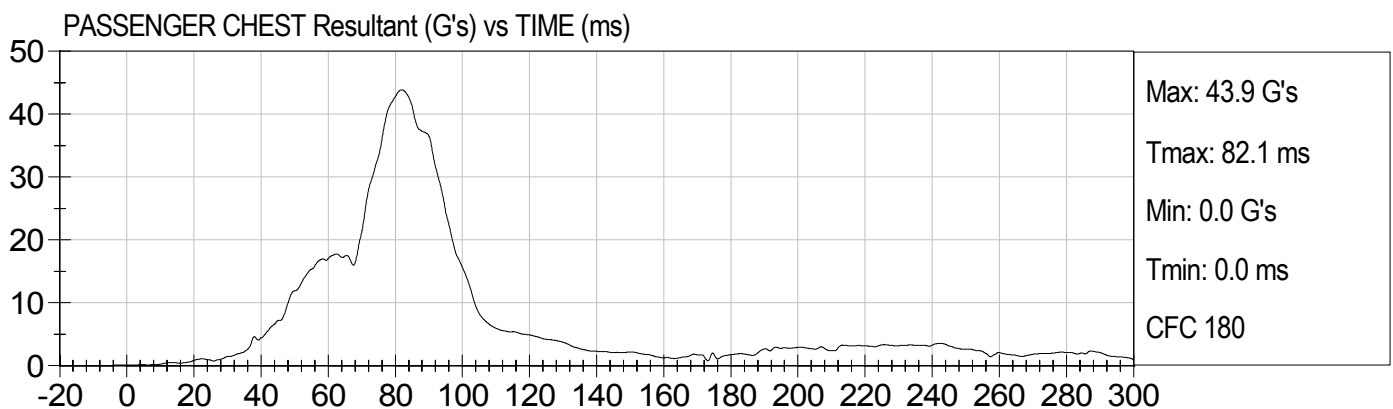
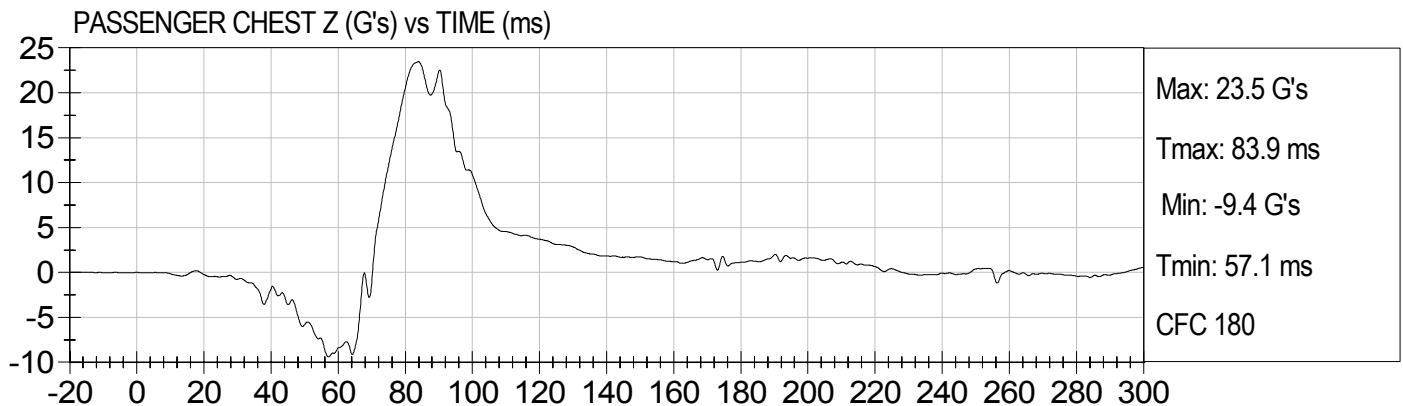
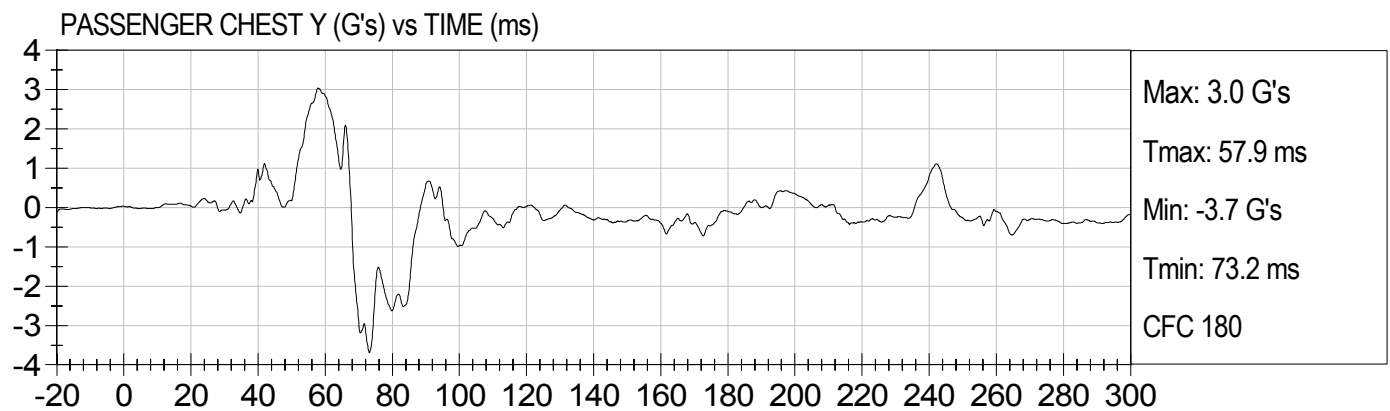
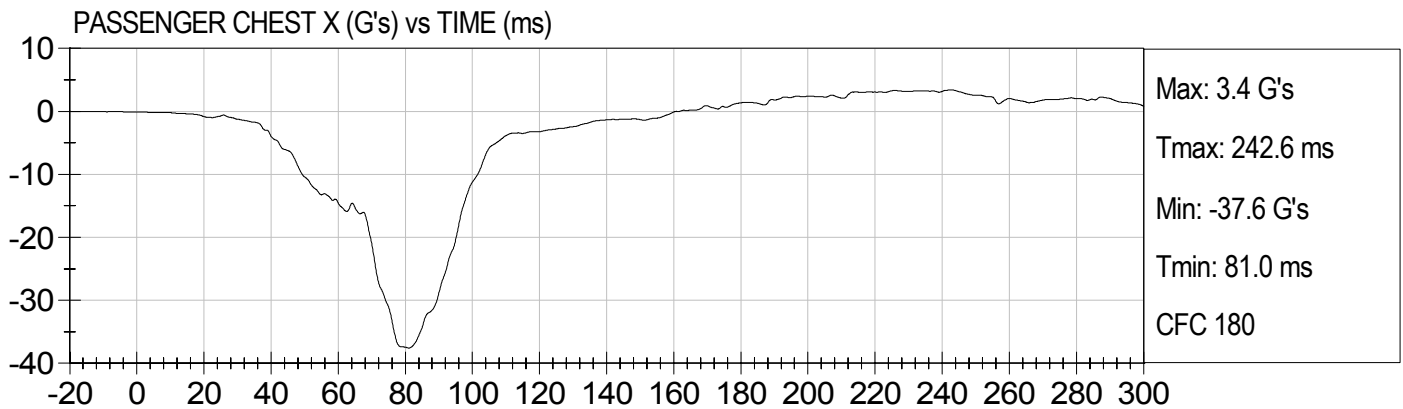
Test Date: 04/18/2006  
Speed: 24.6 mph (39.6 km/h)





25 MPH FRONTAL UNBELTED  
2005 HYUNDAI ELANTRA (C50501)

Test Date: 04/18/2006  
Speed: 24.6 mph (39.6 km/h)

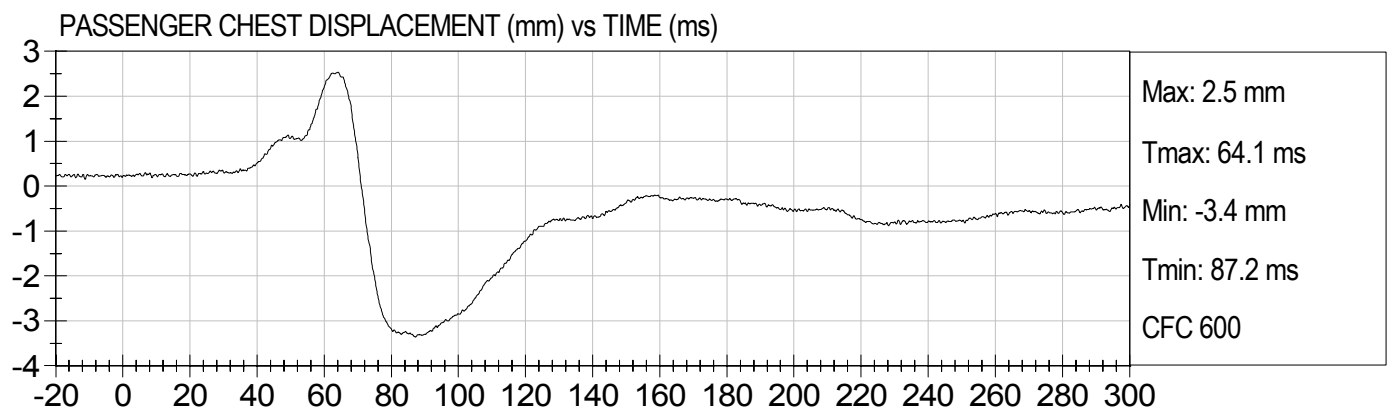
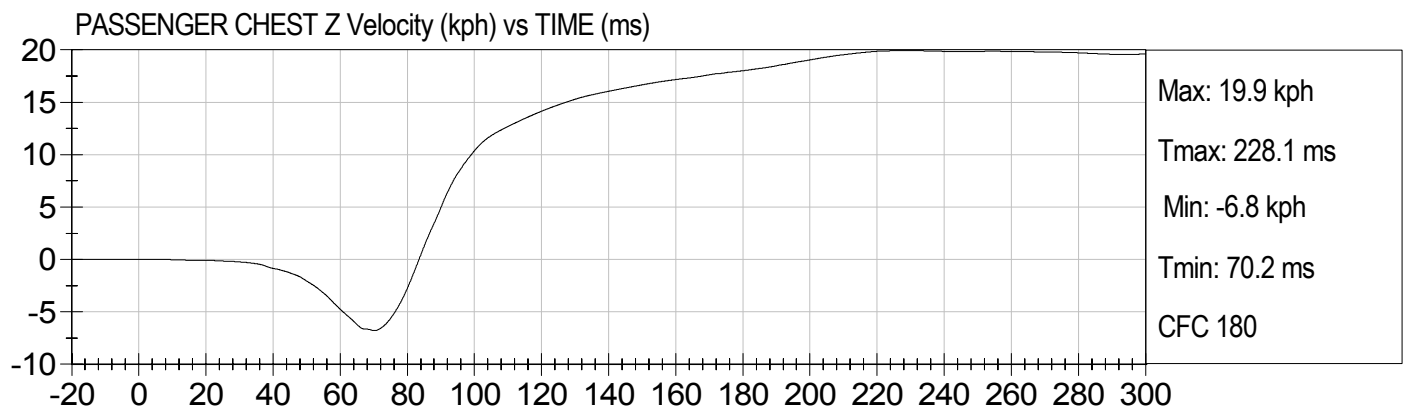
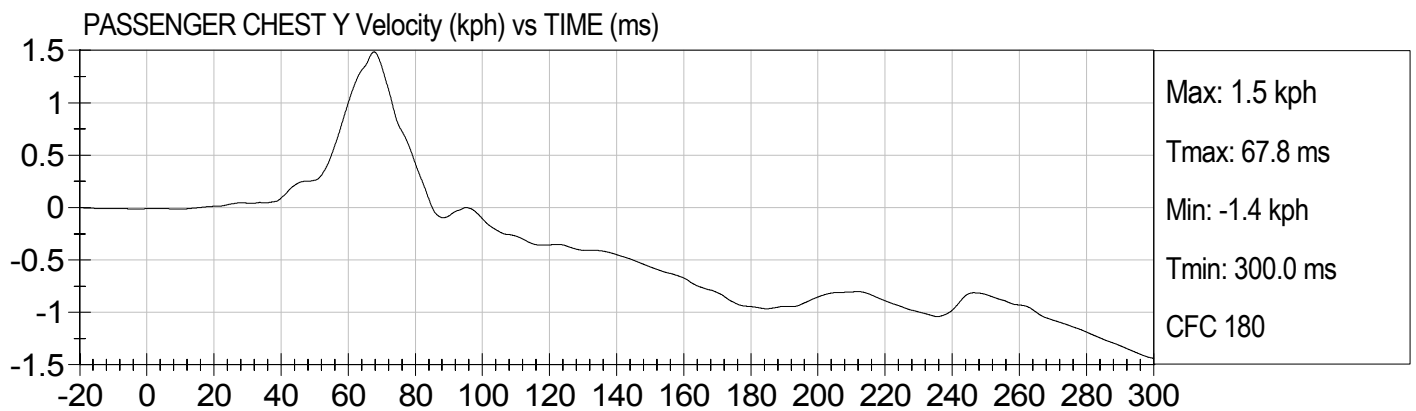
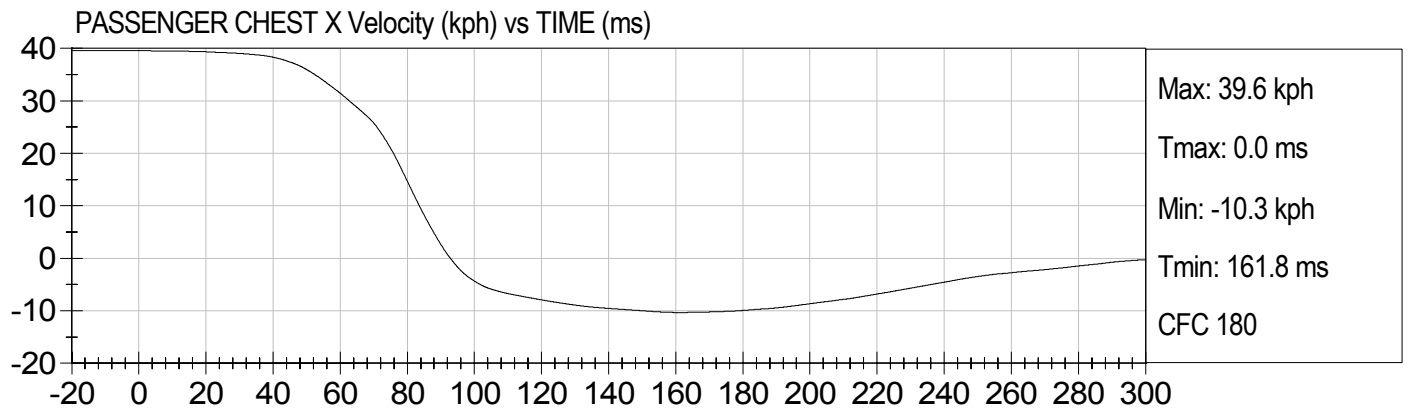






25 MPH FRONTAL UNBELTED  
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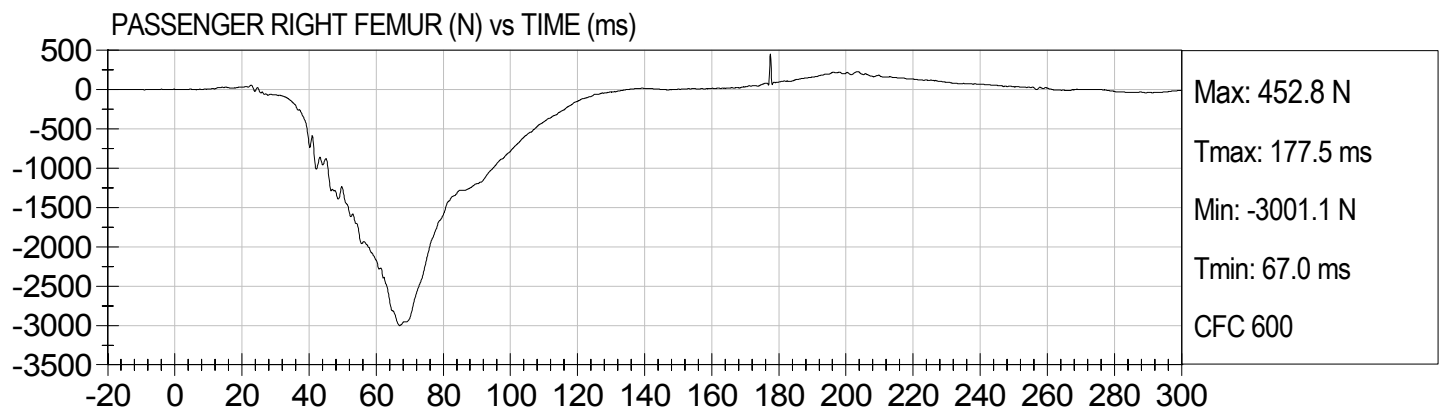
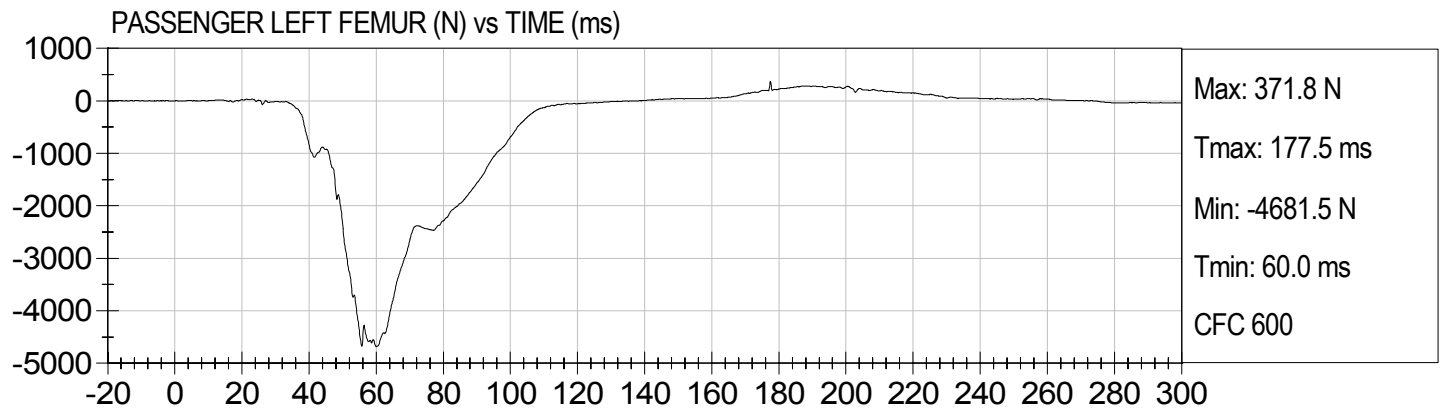
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Speed: 24.6 mph (39.6 km/h)





25 MPH FRONTAL UNBELTED  
2005 HYUNDAI ELANTRA (C50501)

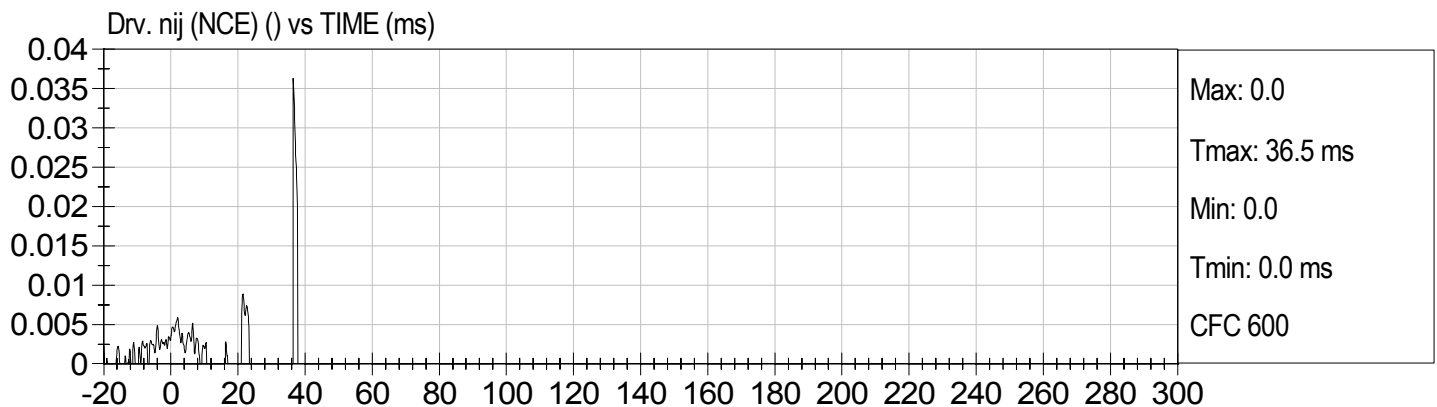
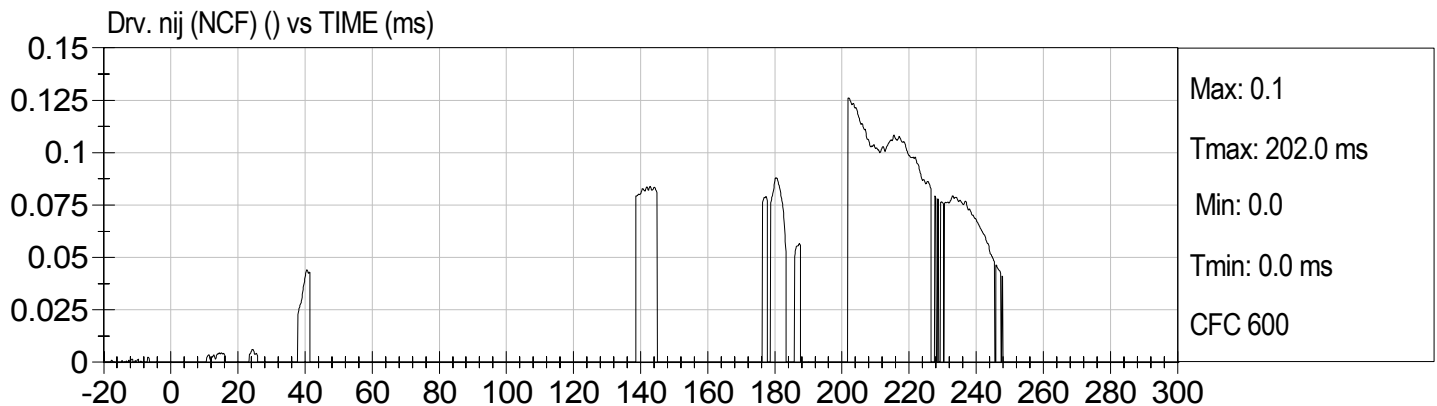
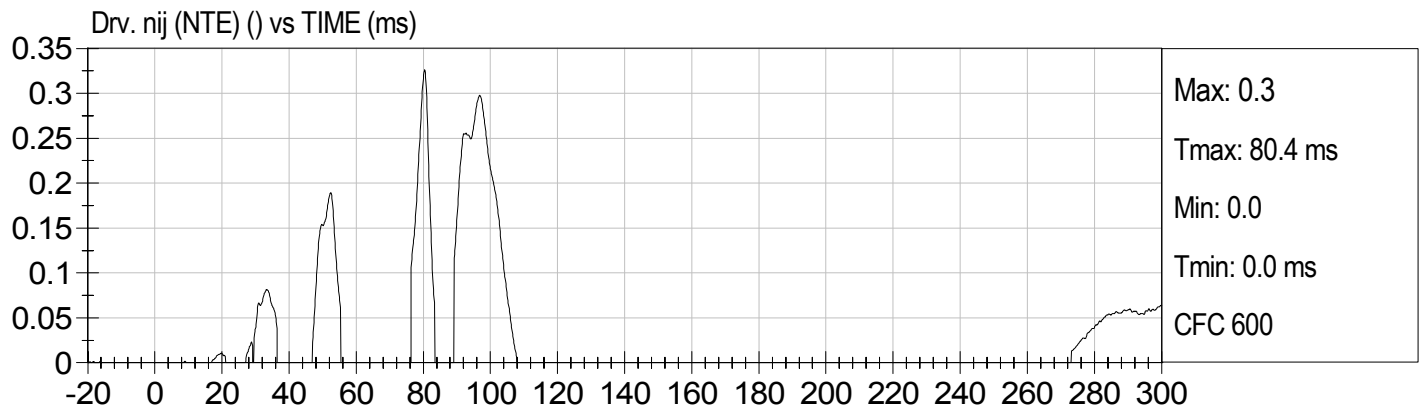
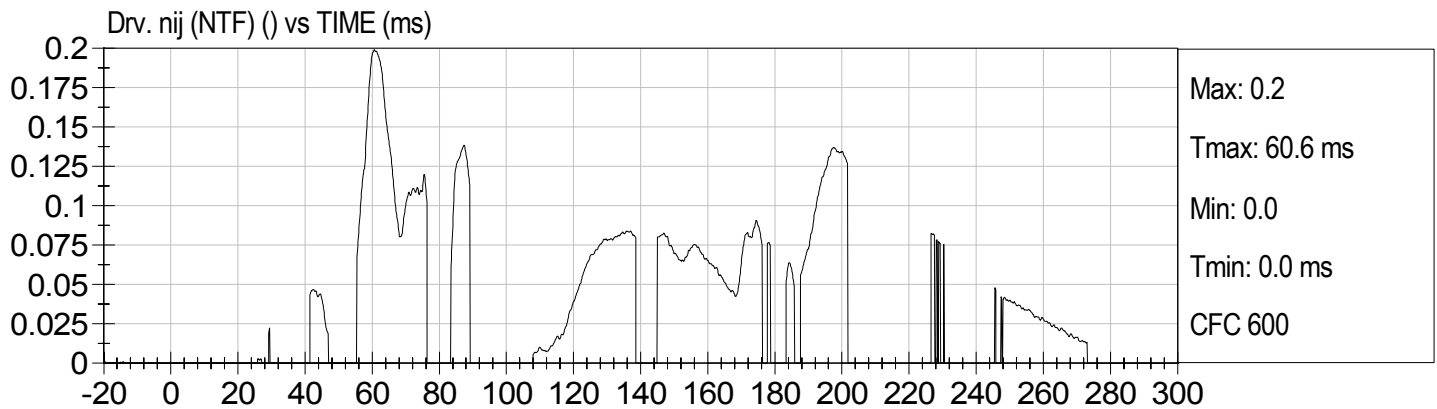
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Speed: 24.6 mph (39.6 km/h)





25 MPH FRONTAL UNBELTED  
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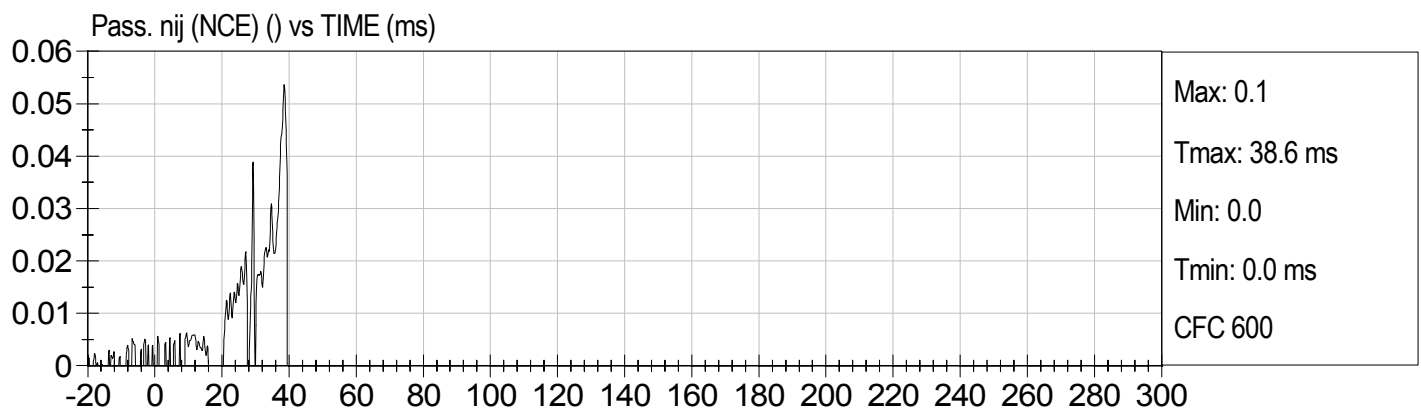
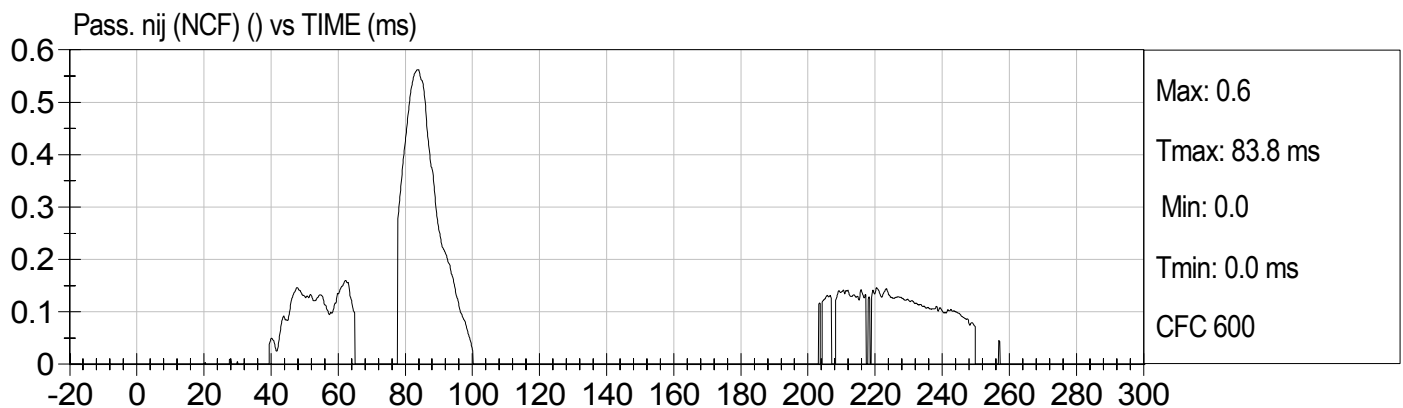
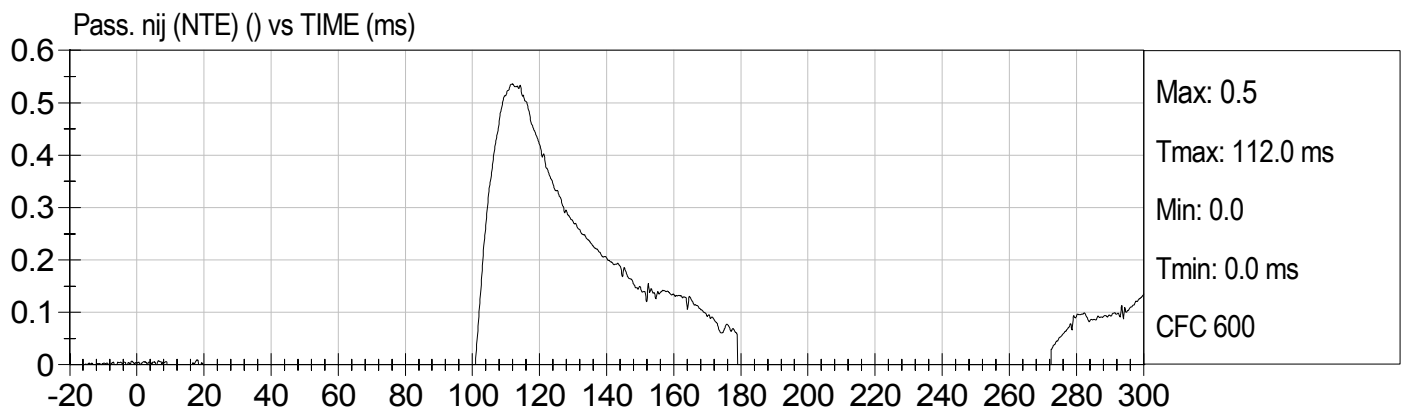
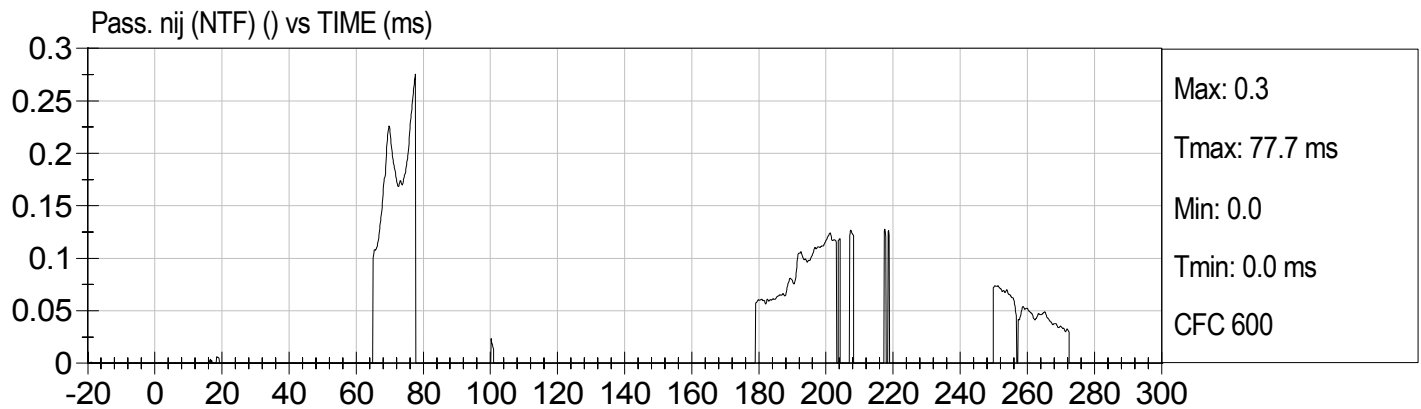
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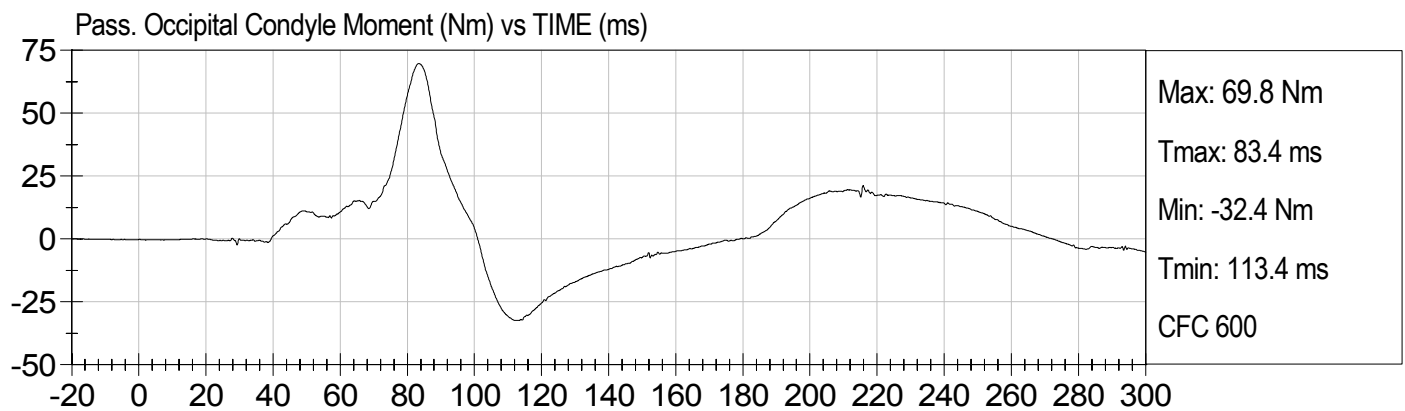
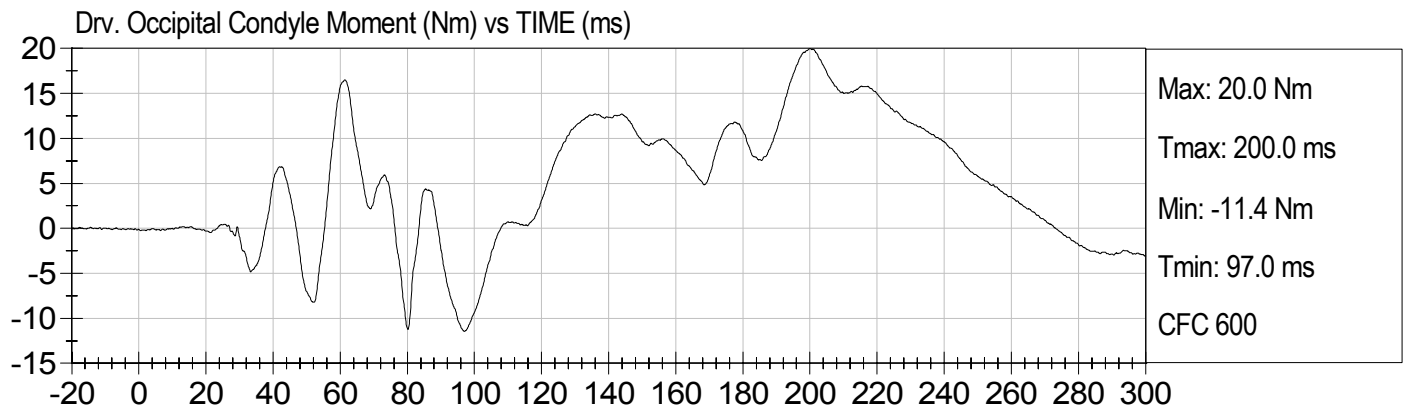
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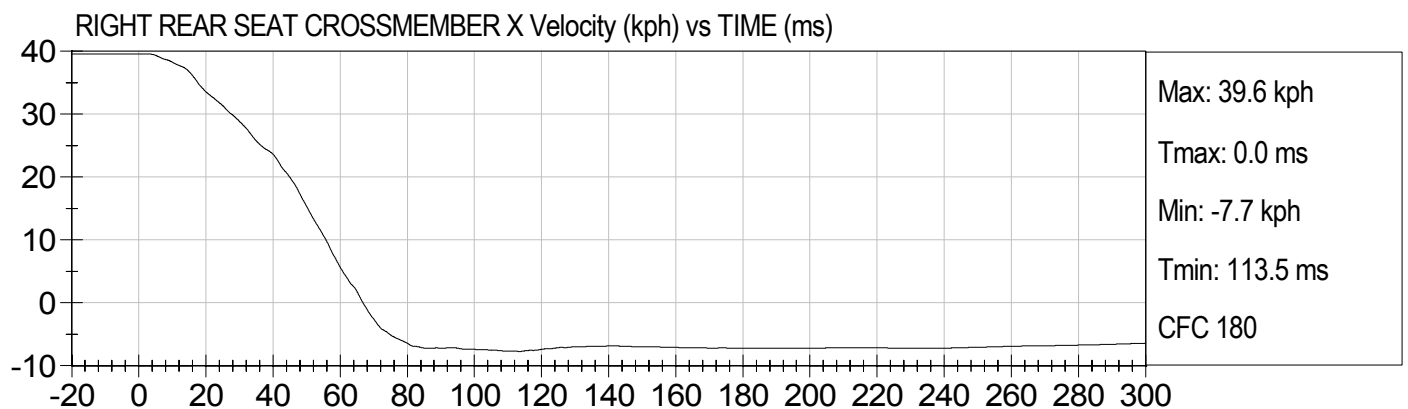
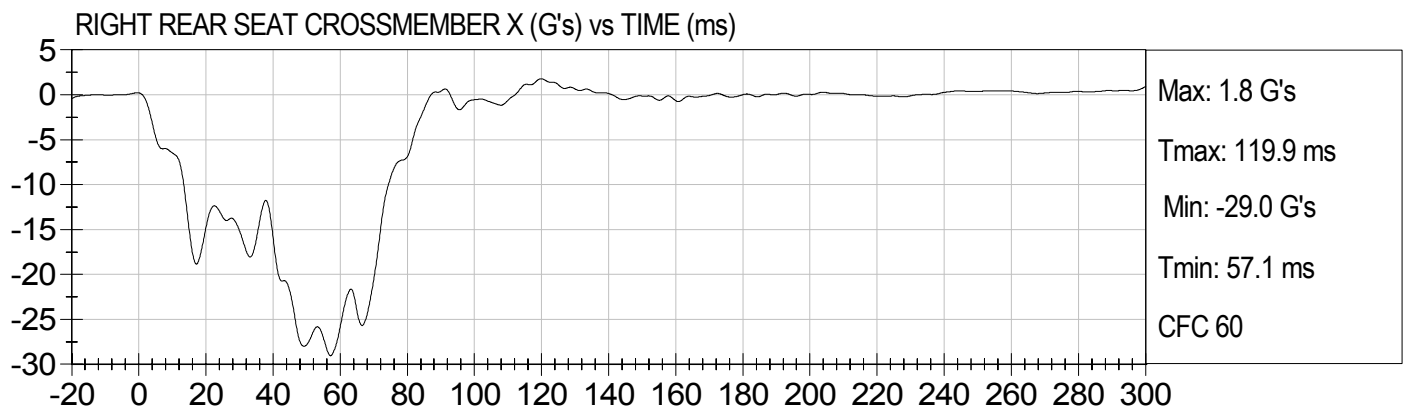
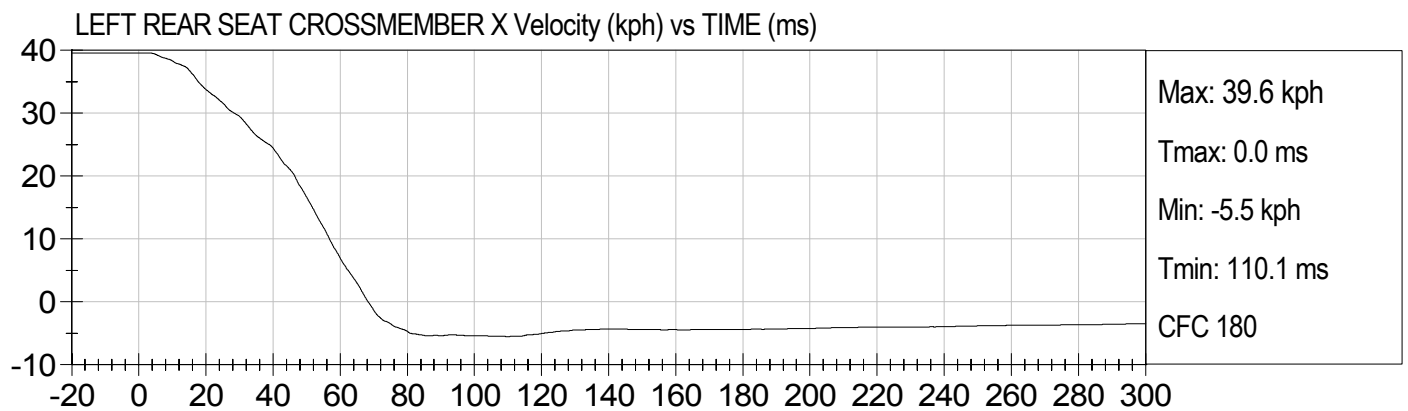
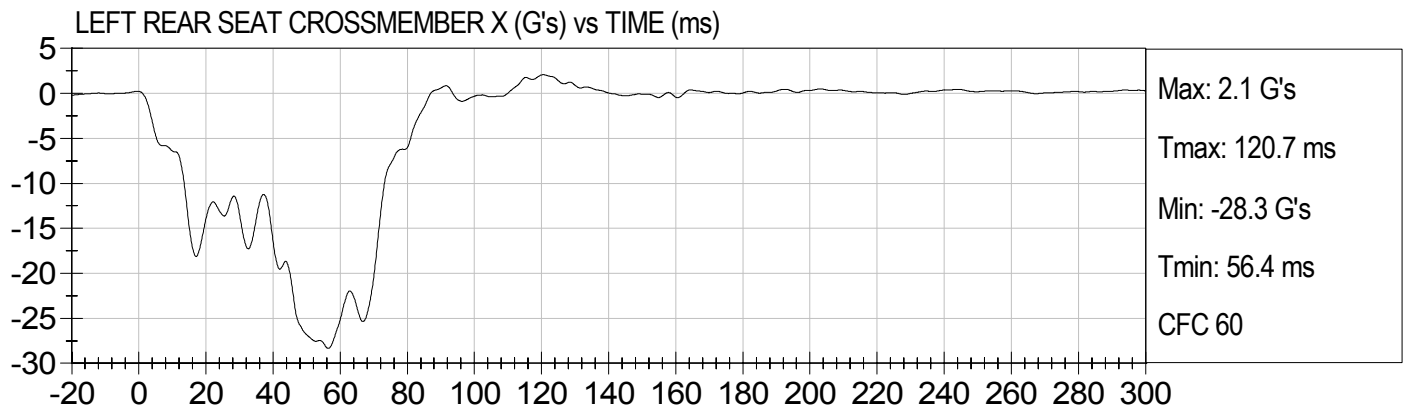
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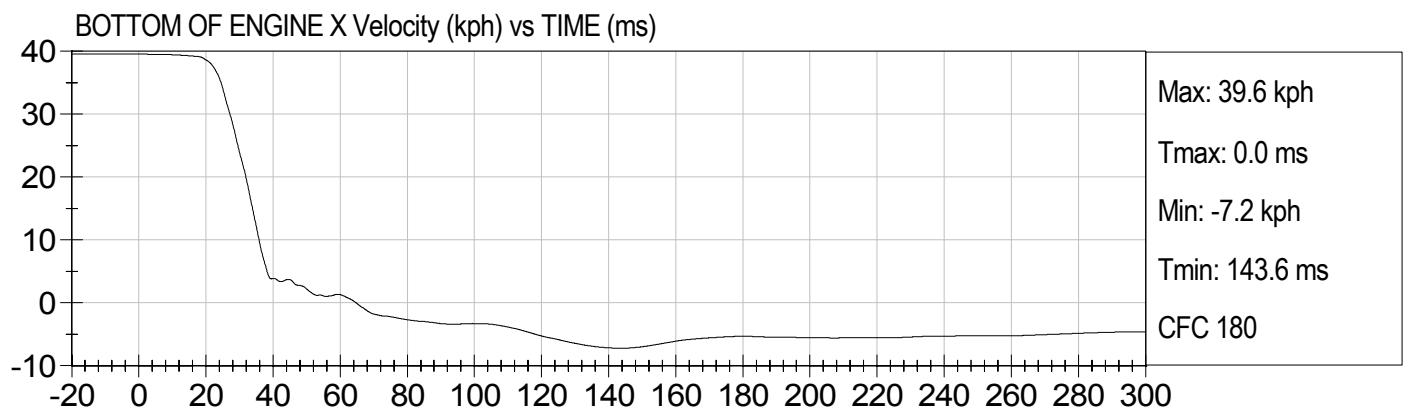
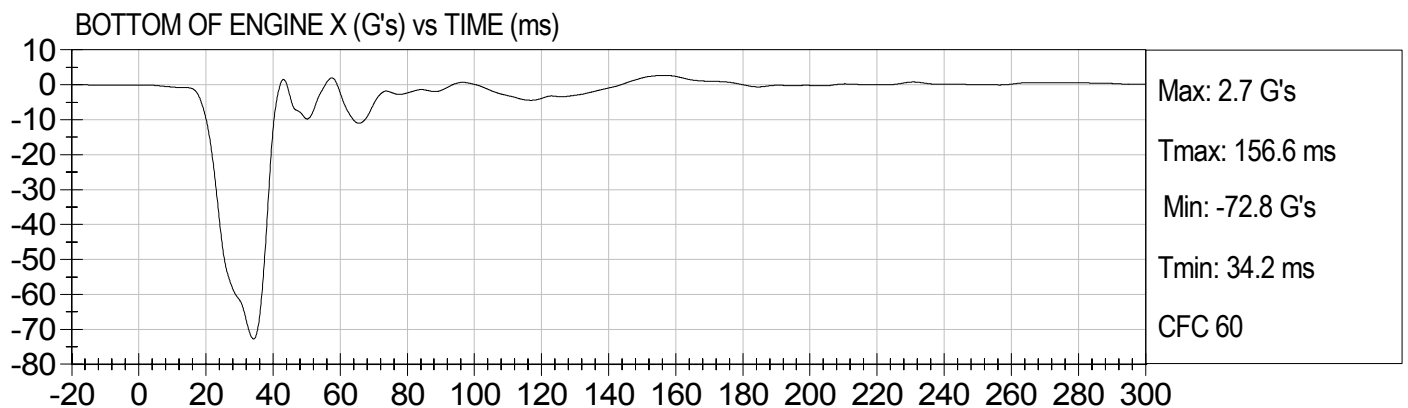
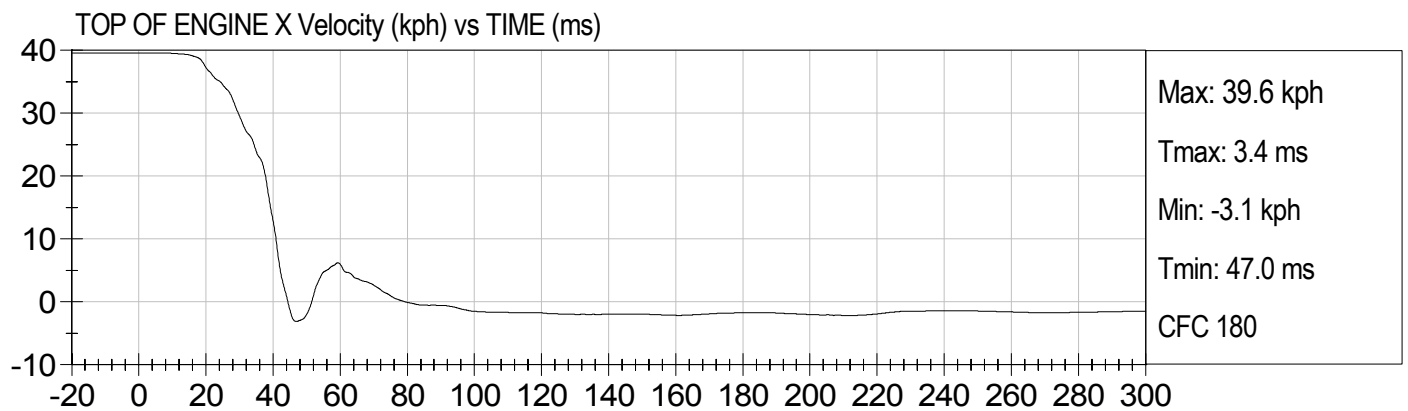
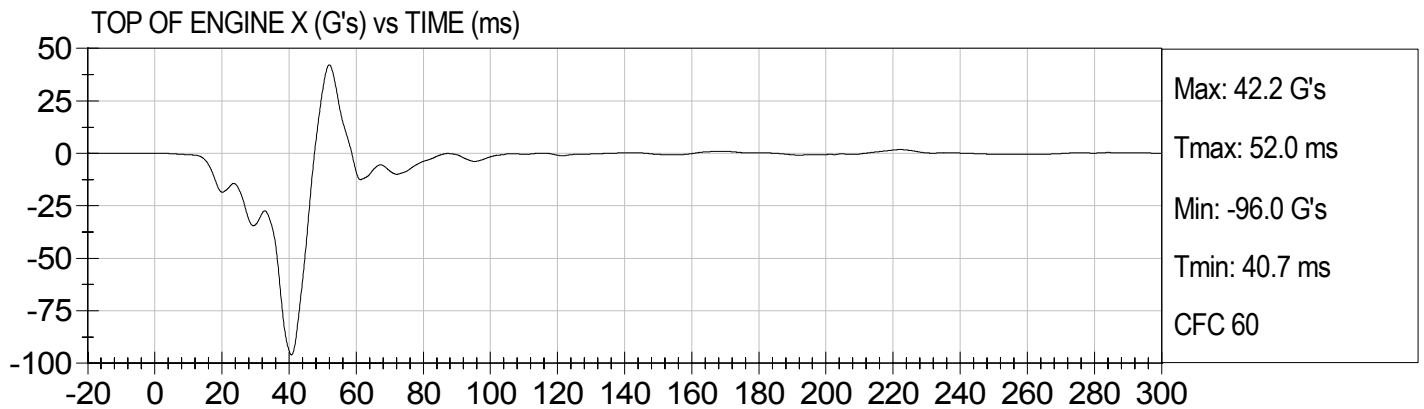
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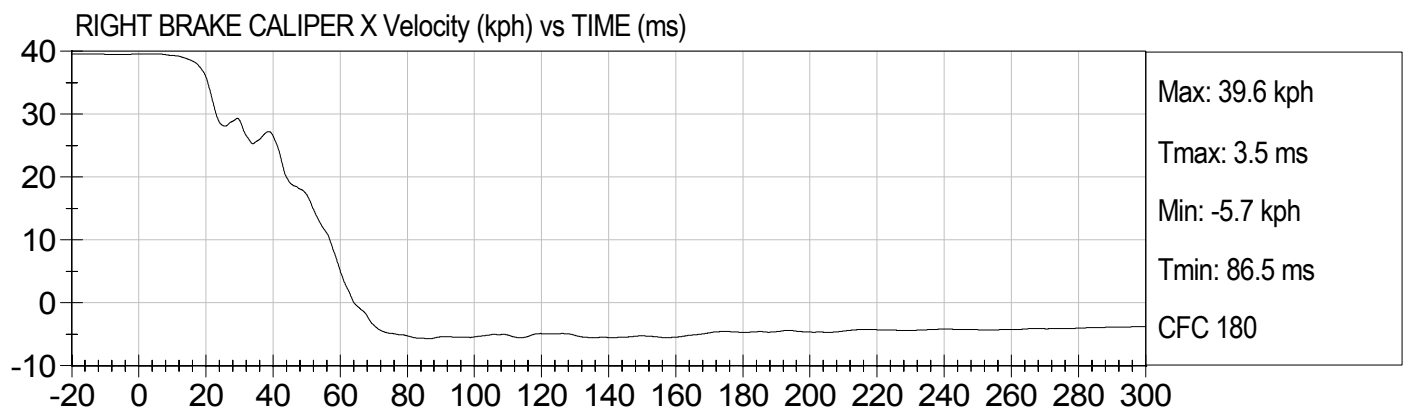
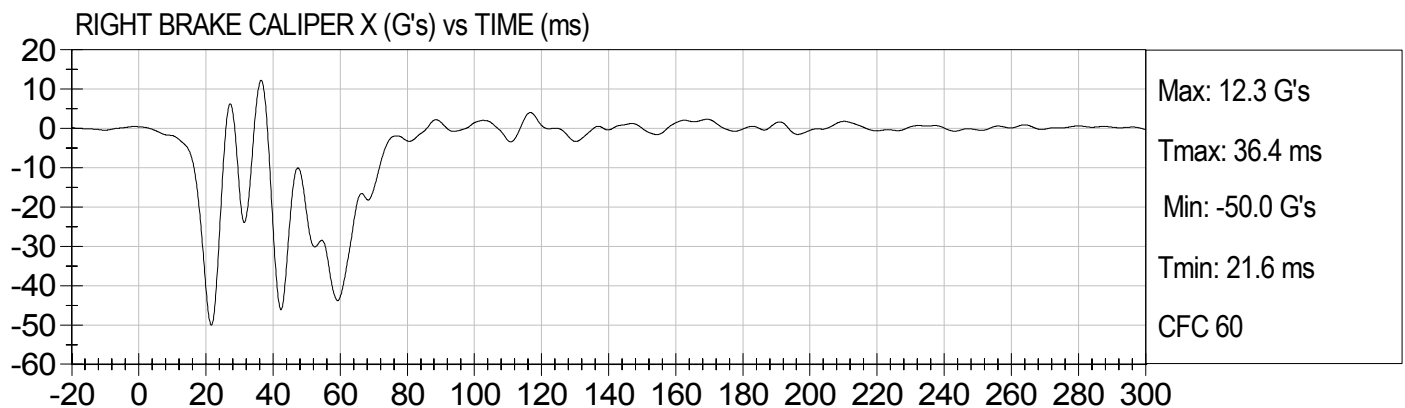
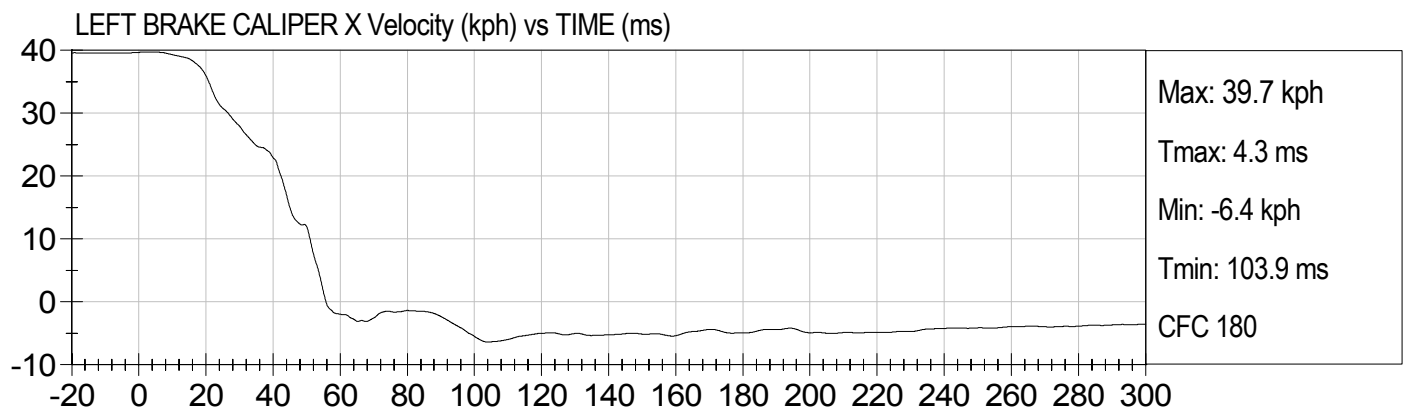
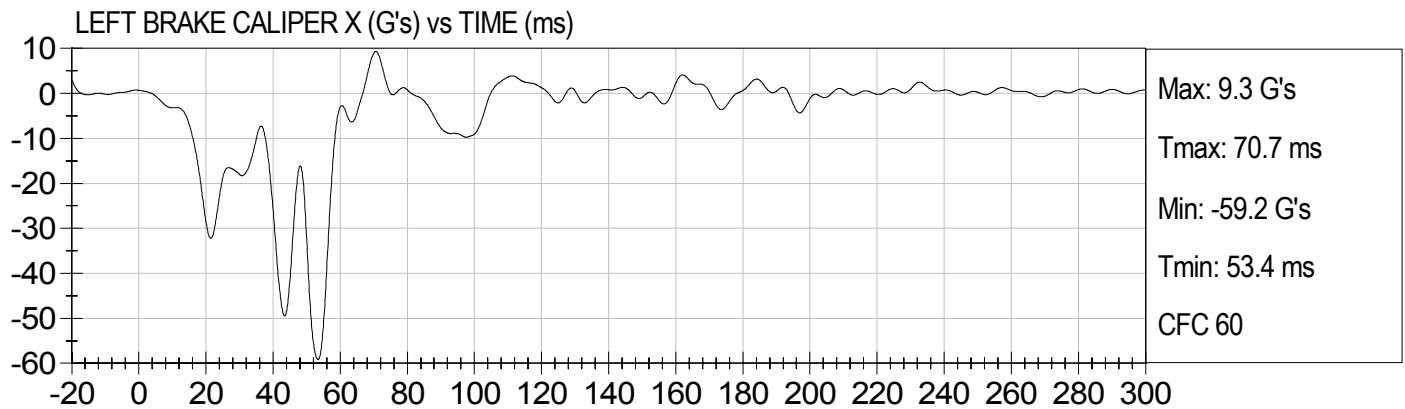
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Speed: 24.6 mph (39.6 km/h)





25 MPH FRONTAL UNBELTED  
2005 HYUNDAI ELANTRA (C50501)

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Speed: 24.6 mph (39.6 km/h)

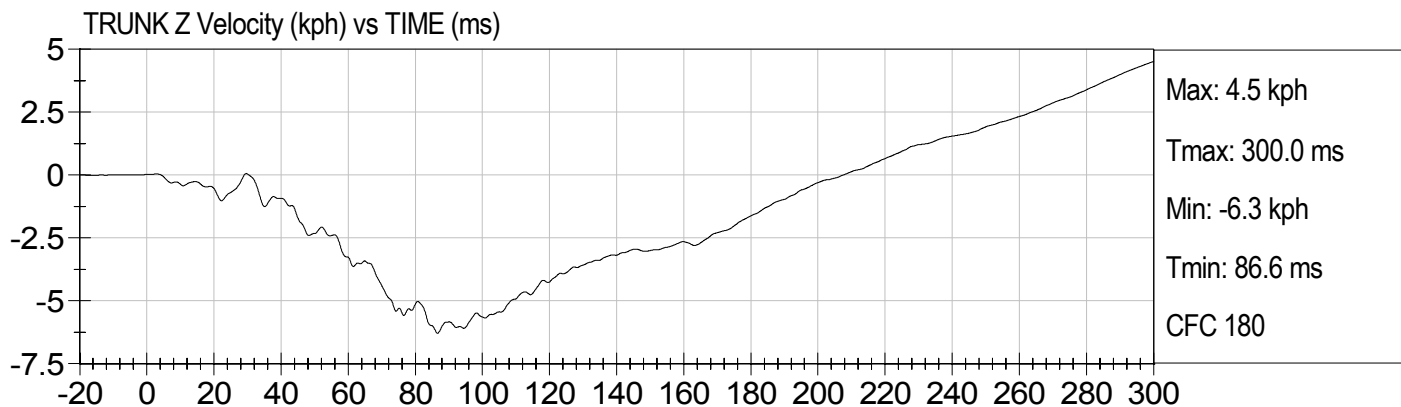
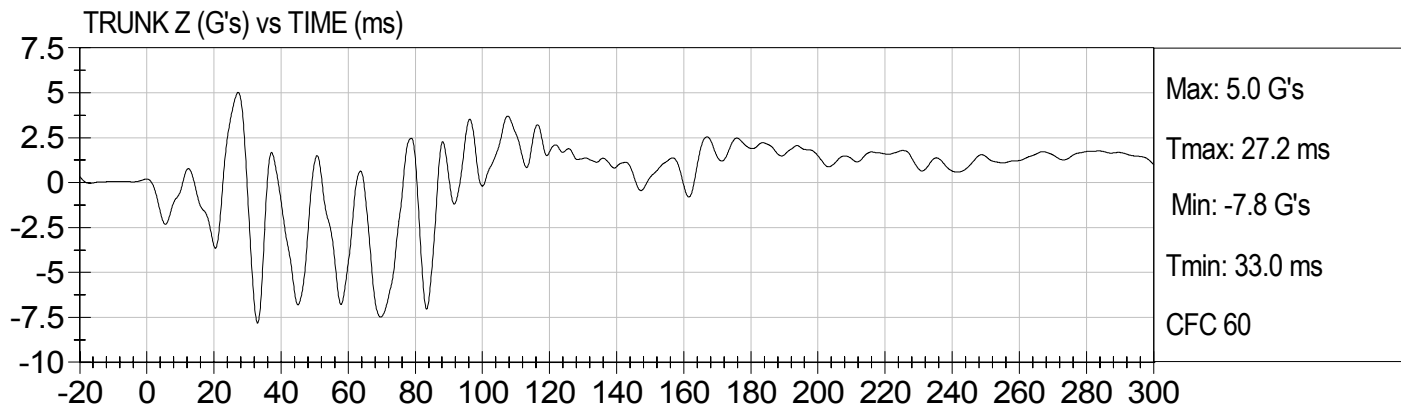
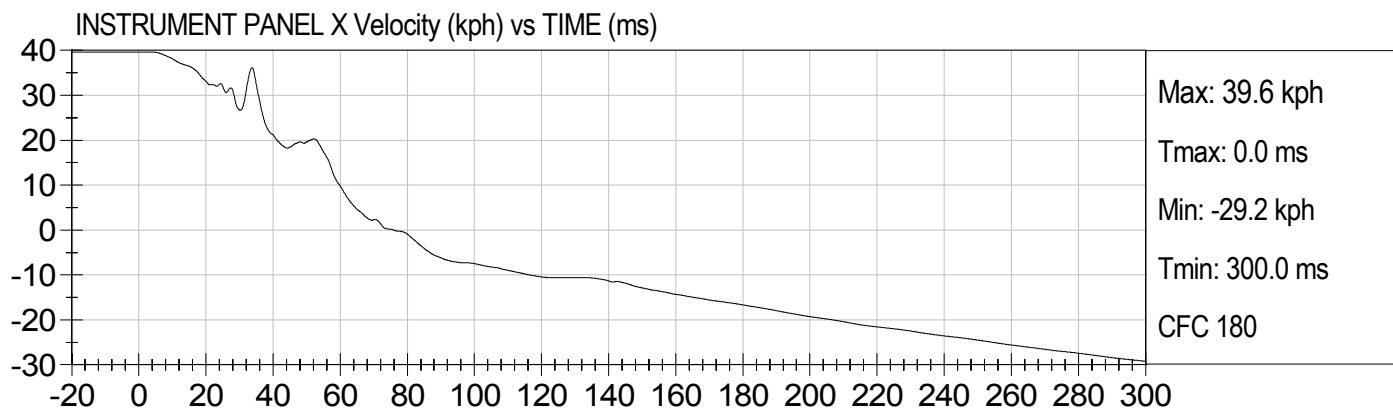
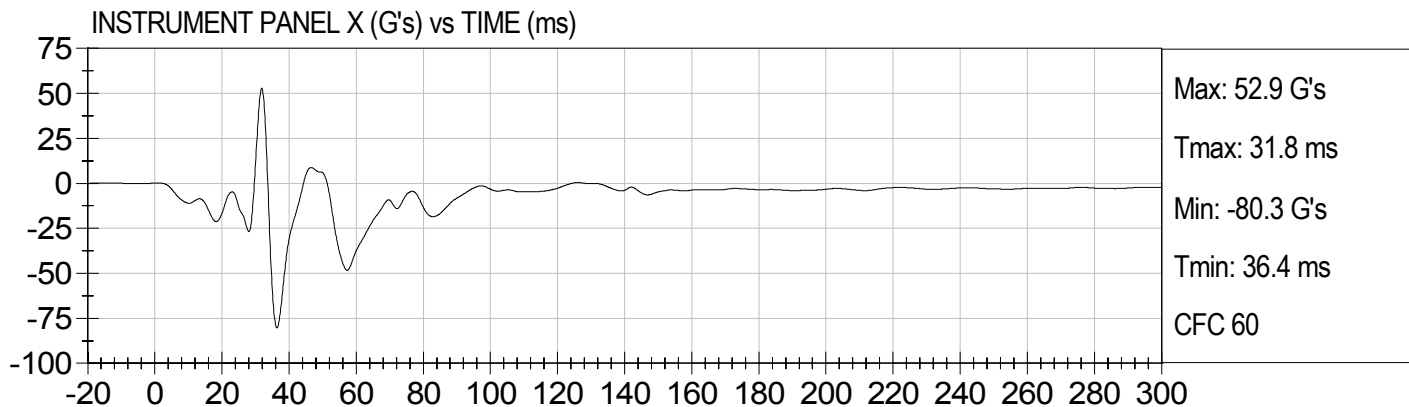






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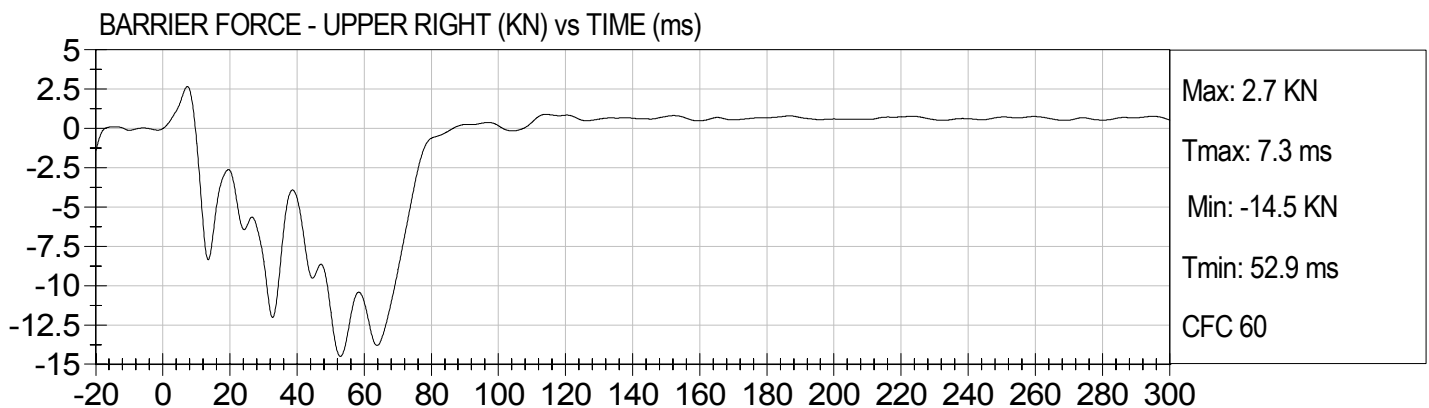
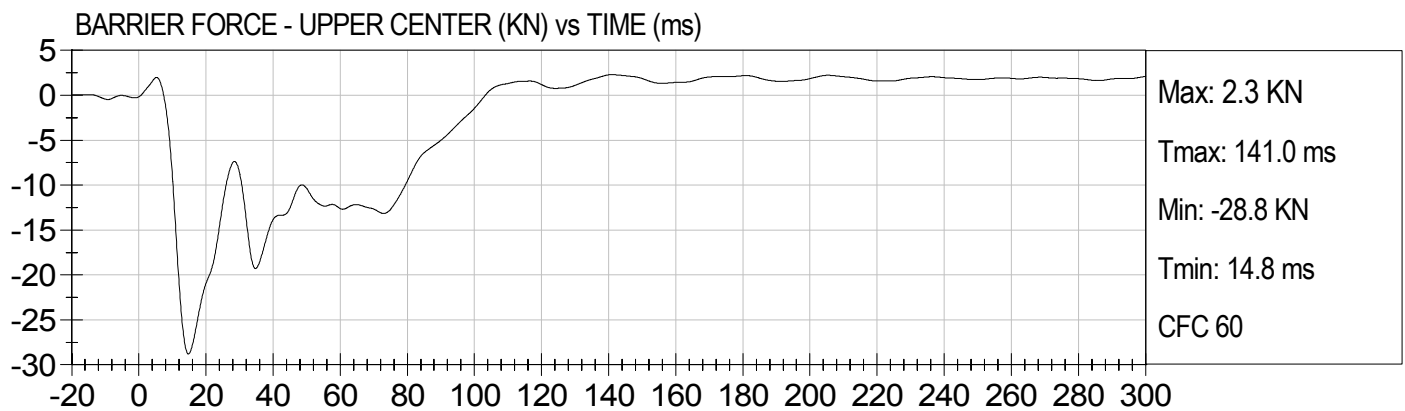
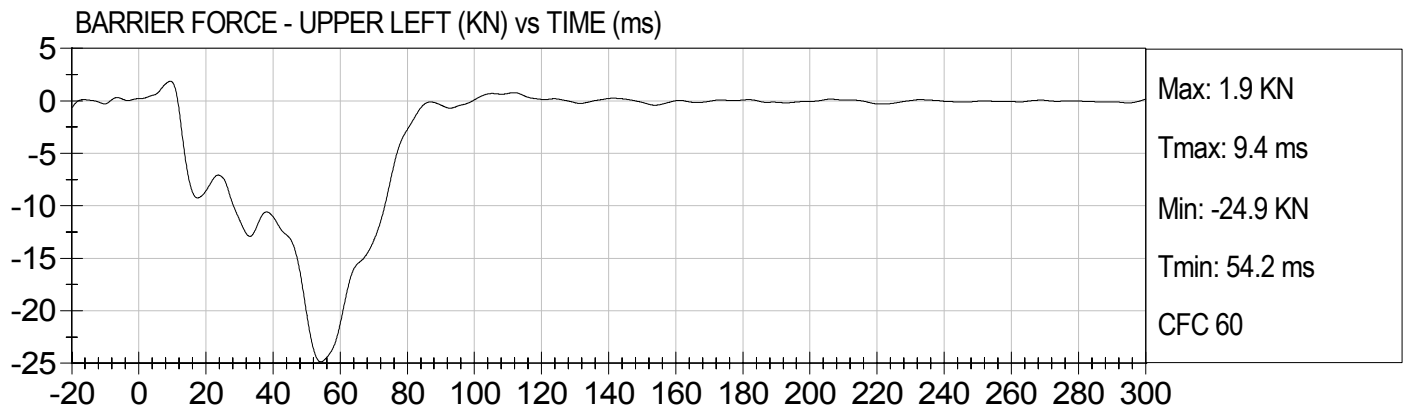
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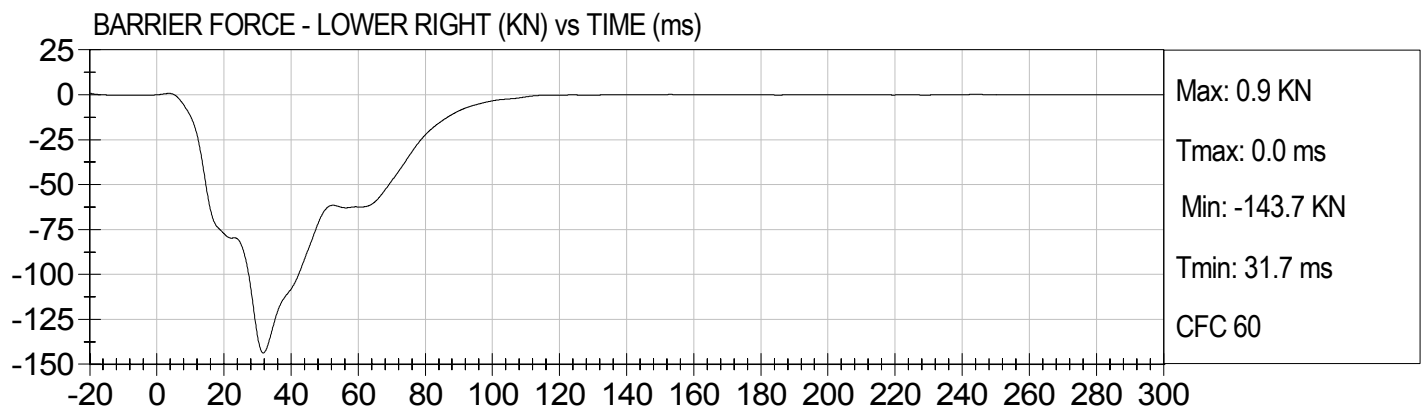
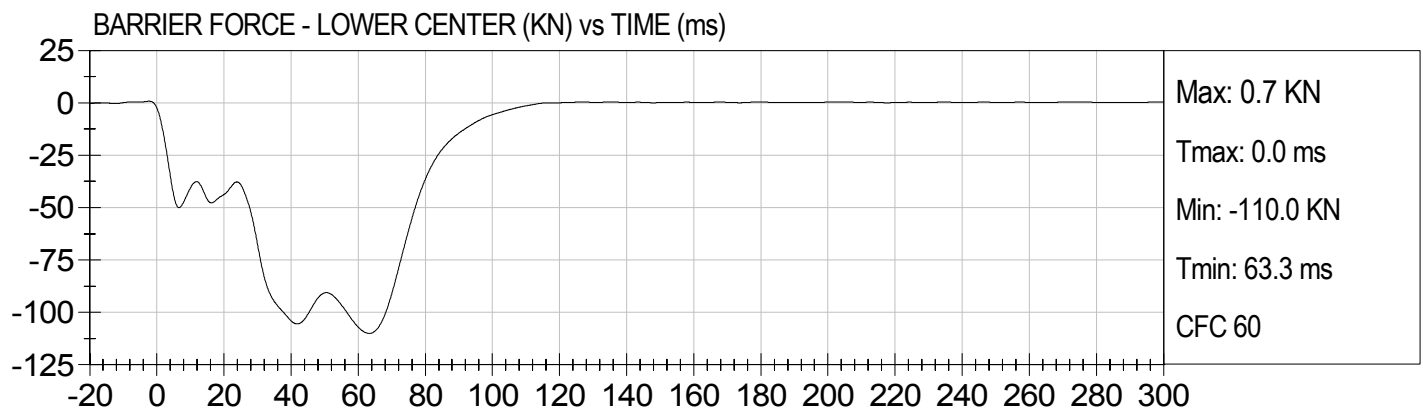
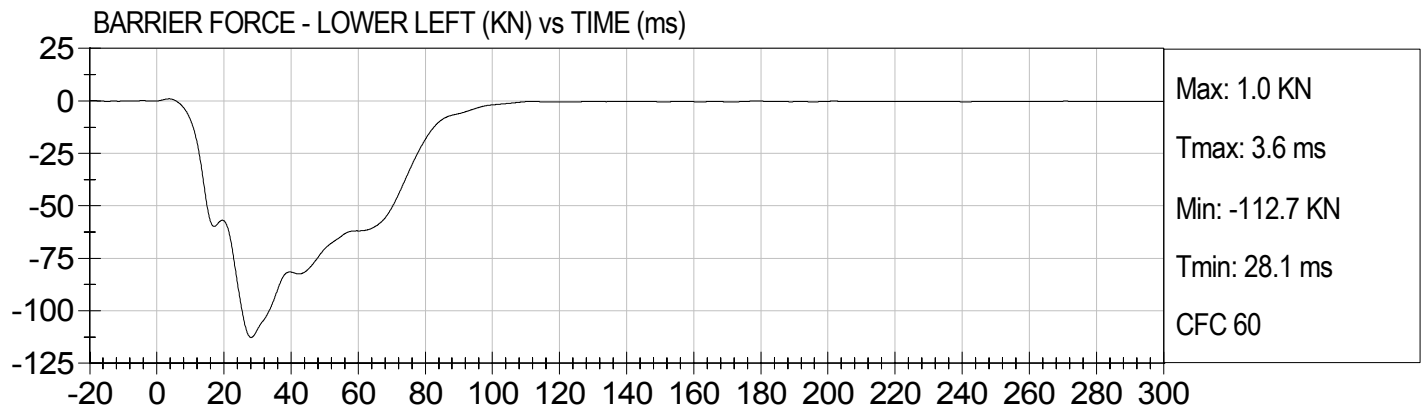
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Speed: 24.6 mph (39.6 km/h)





25 MPH FRONTAL UNBELTED  
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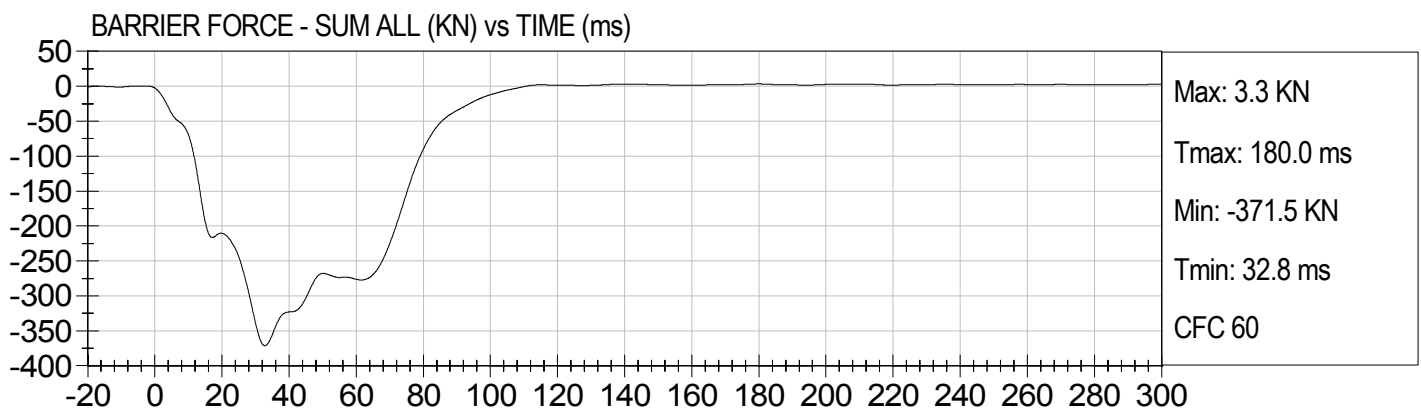
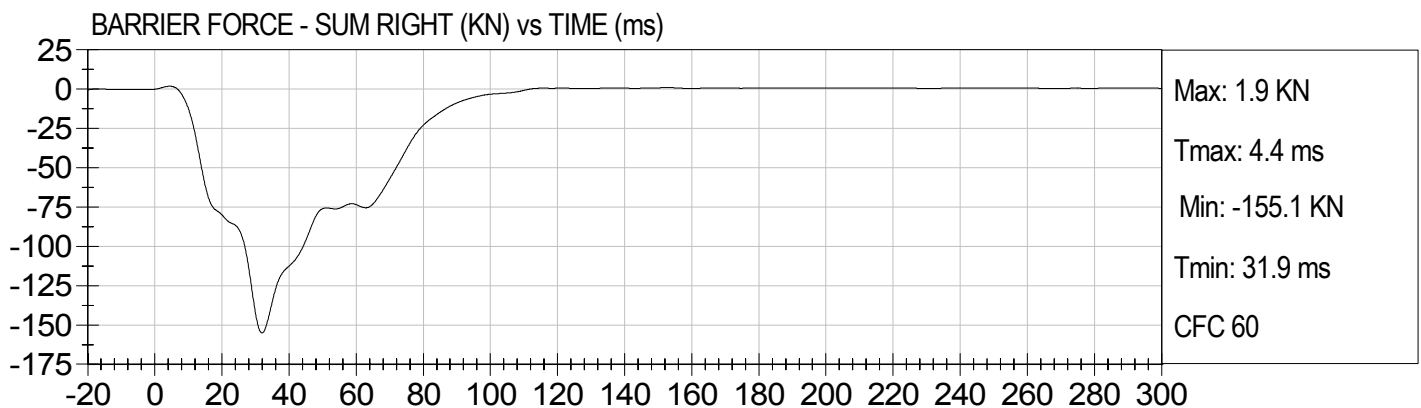
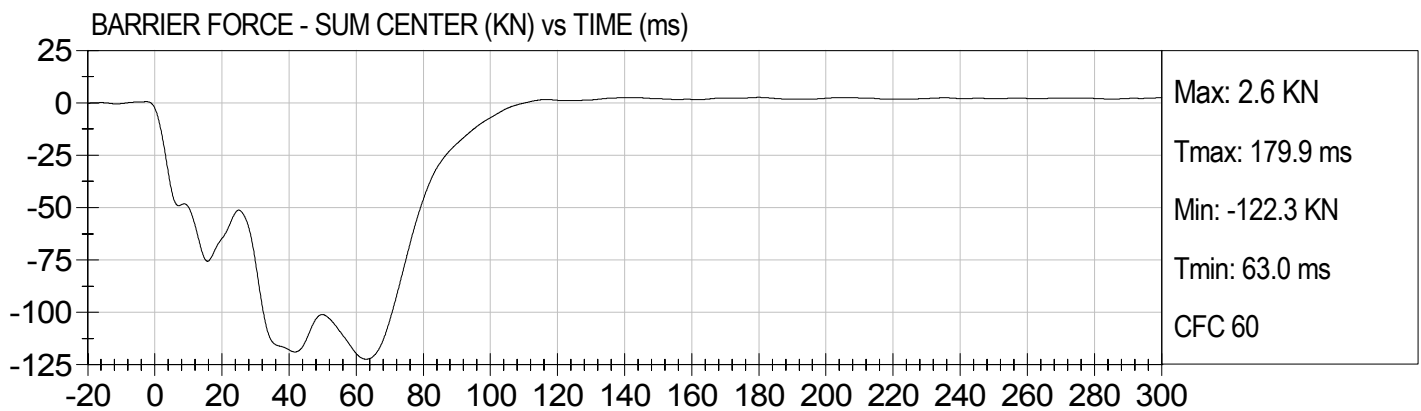
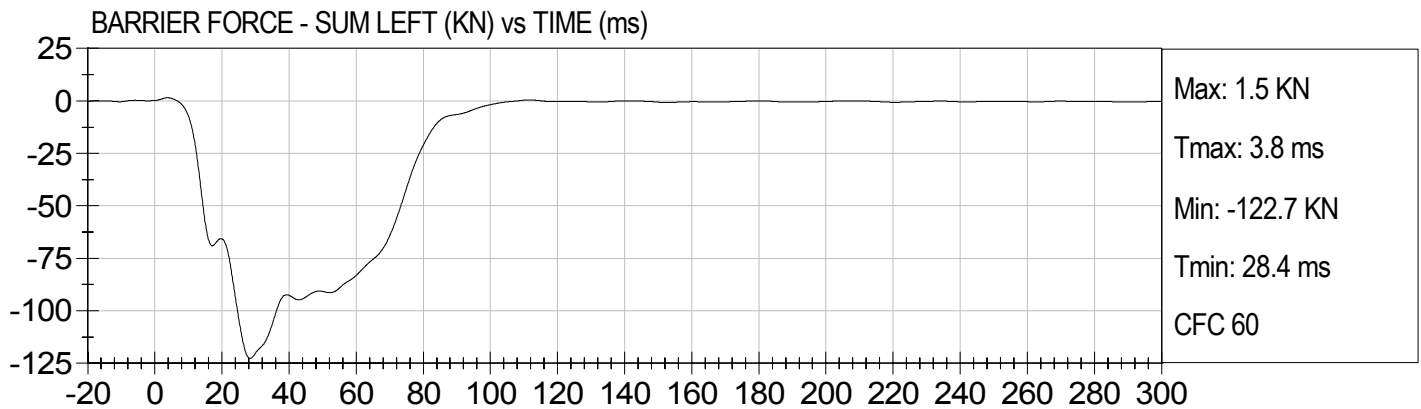
Test Date: 04/18/2006  
Speed: 24.6 mph (39.6 km/h)





25 MPH FRONTAL UNBELTED  
2005 HYUNDAI ELANTRA (C50501)

Test Date: 04/18/2006  
Speed: 24.6 mph (39.6 km/h)



**APPENDIX B**  
**LOW RISK TEST DATA**

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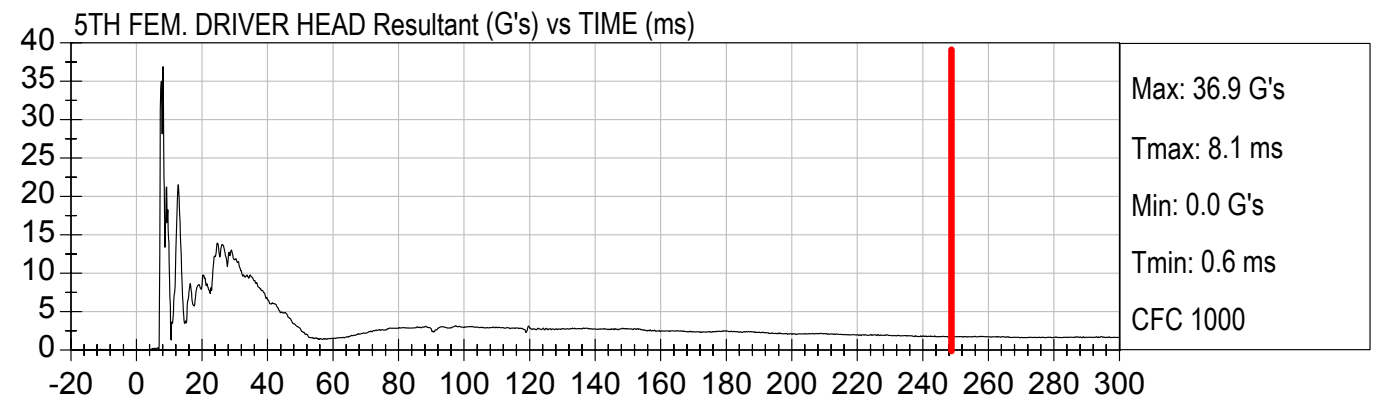
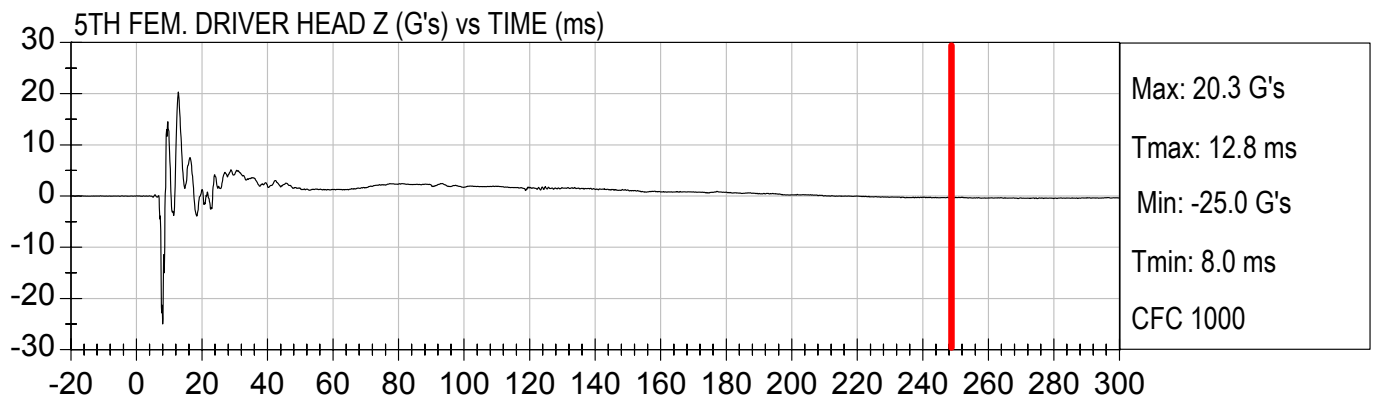
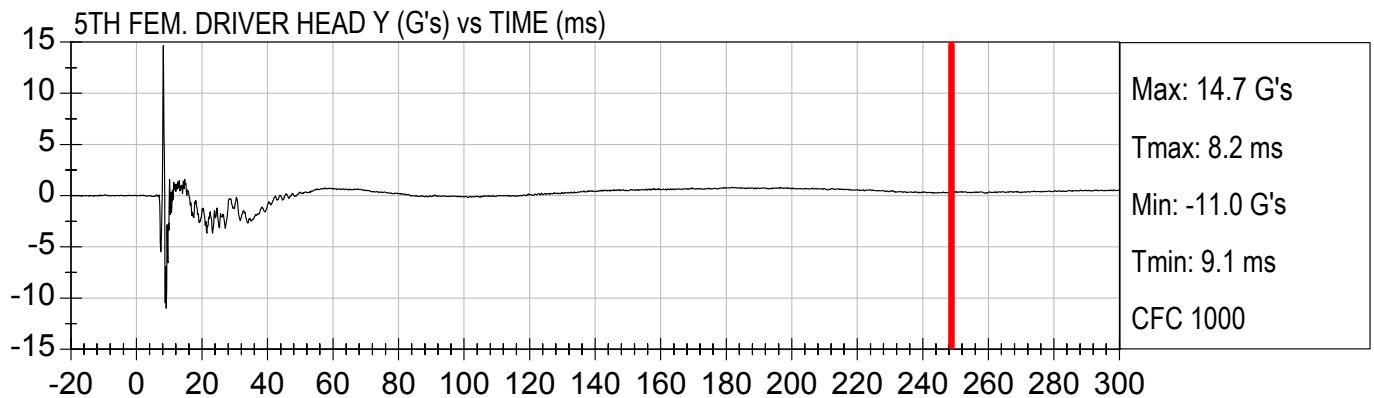
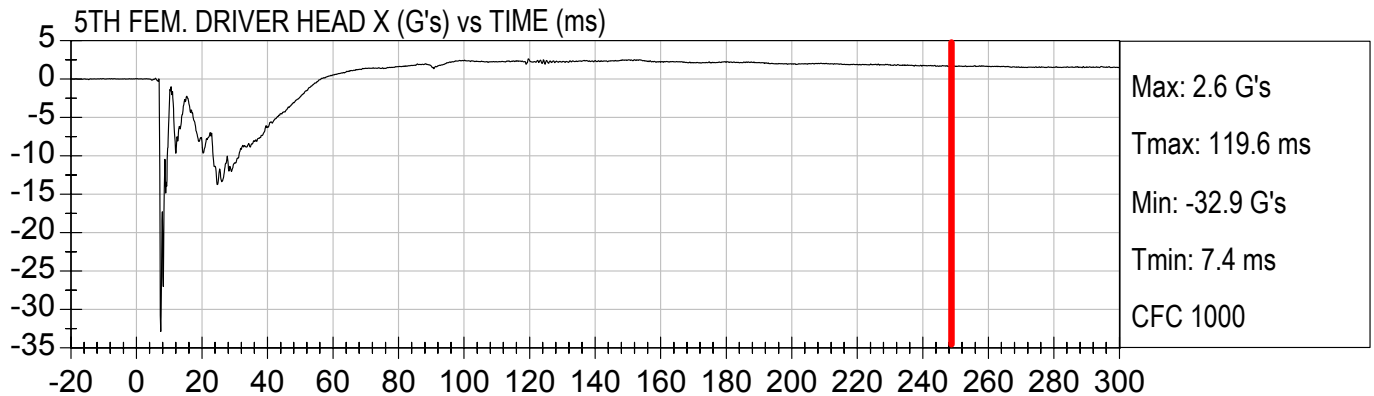
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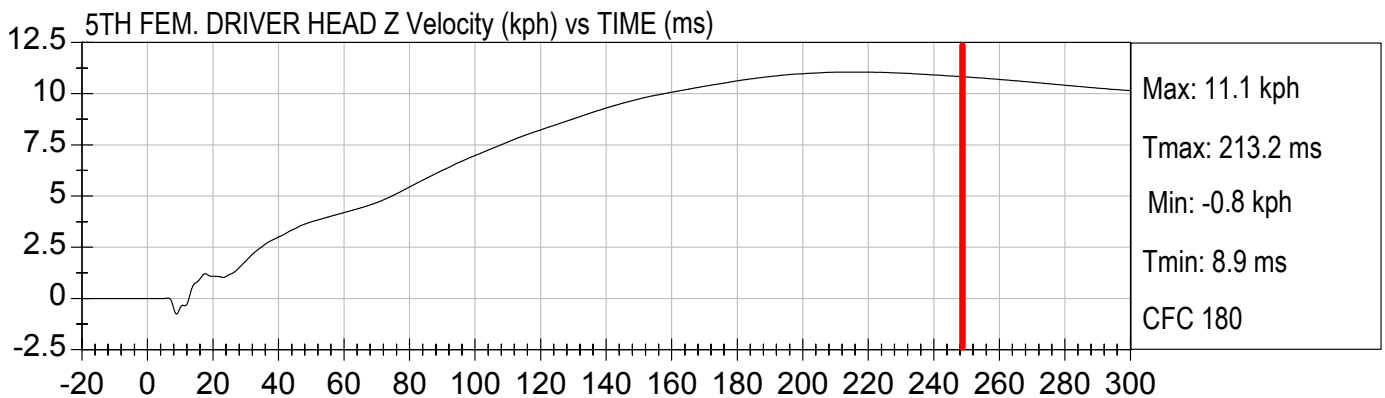
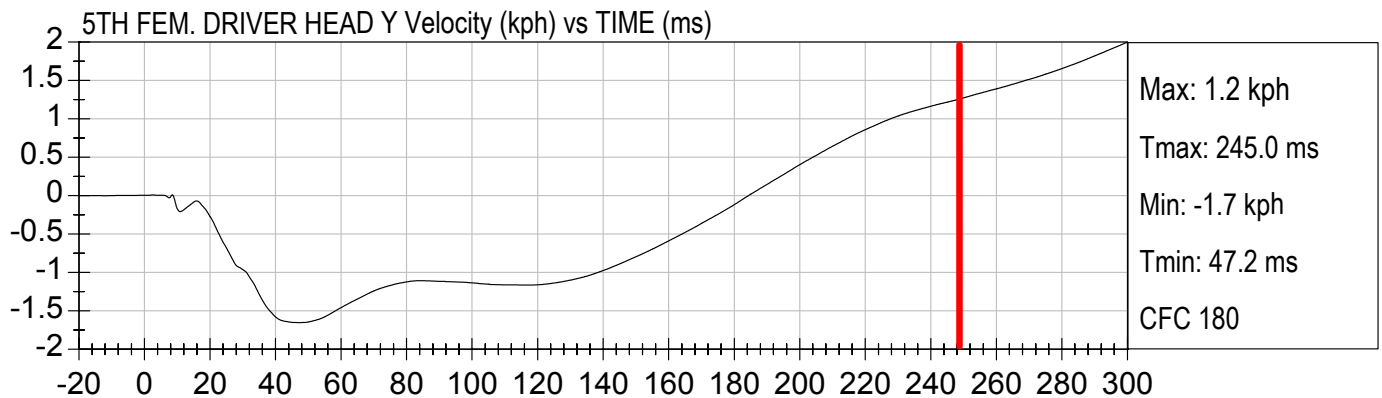
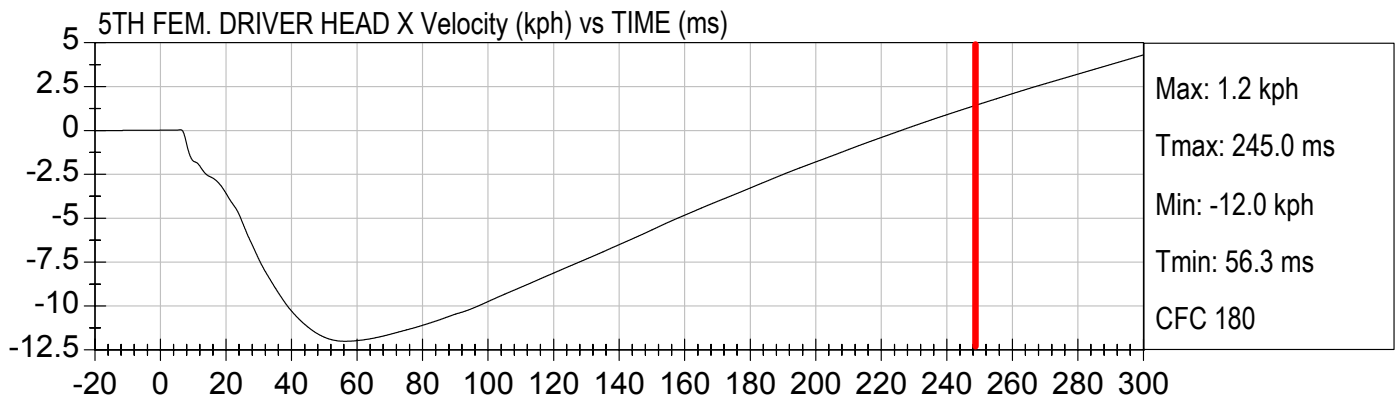


Injury Values Calculated between 0ms and 245ms



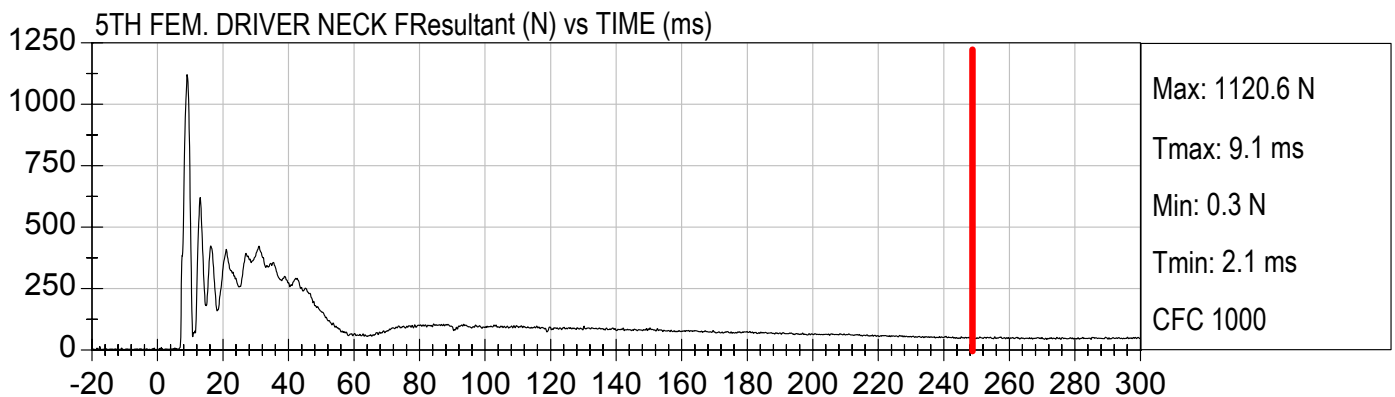
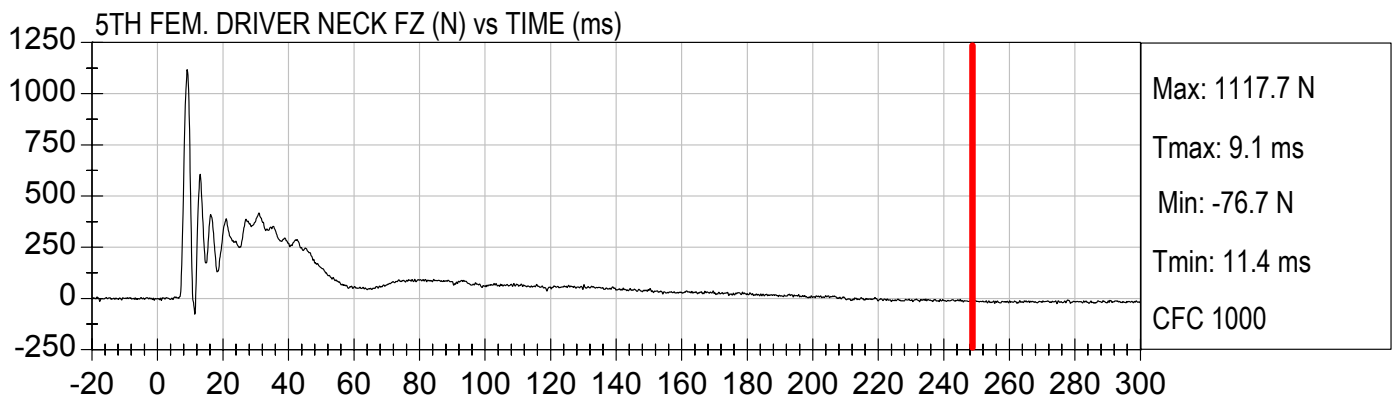
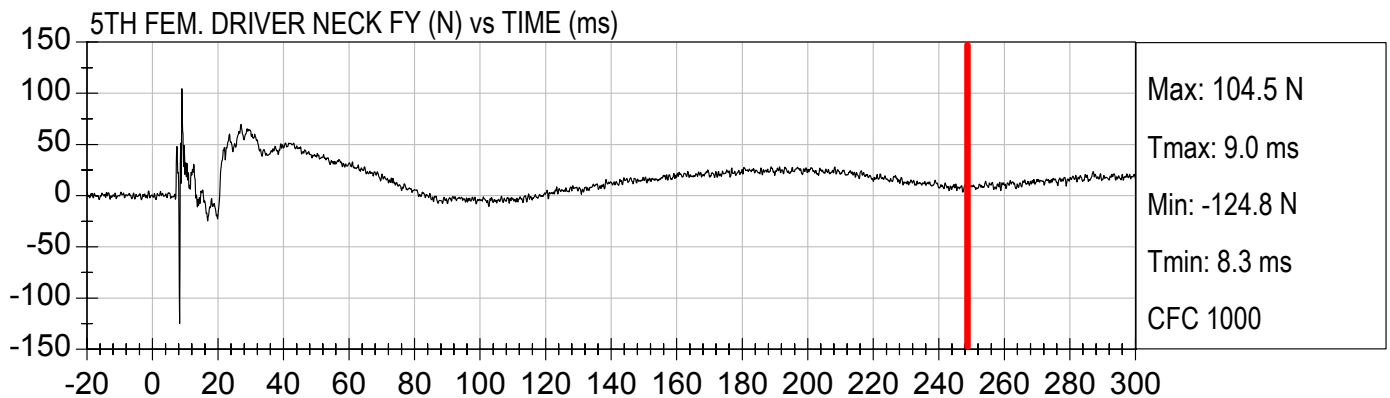
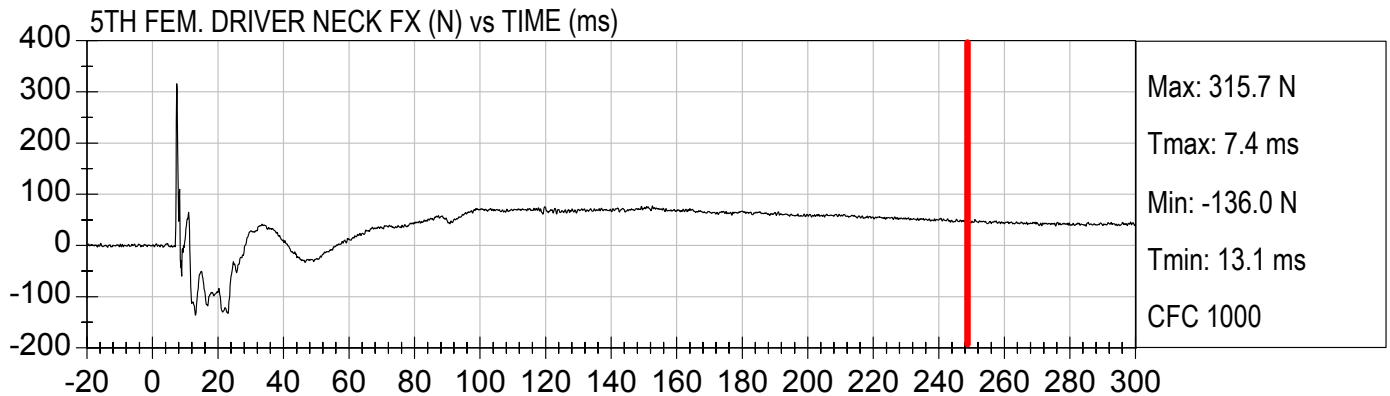


Injury Values Calculated between 0ms and 245ms





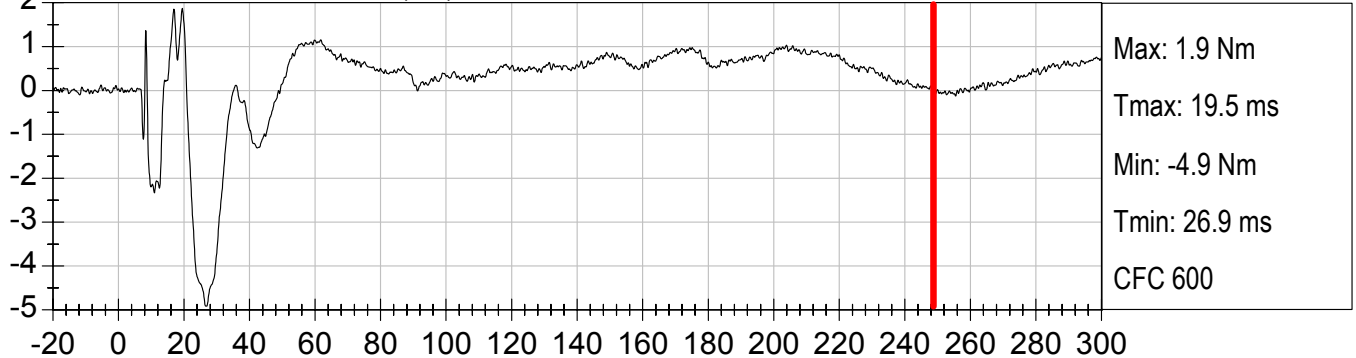
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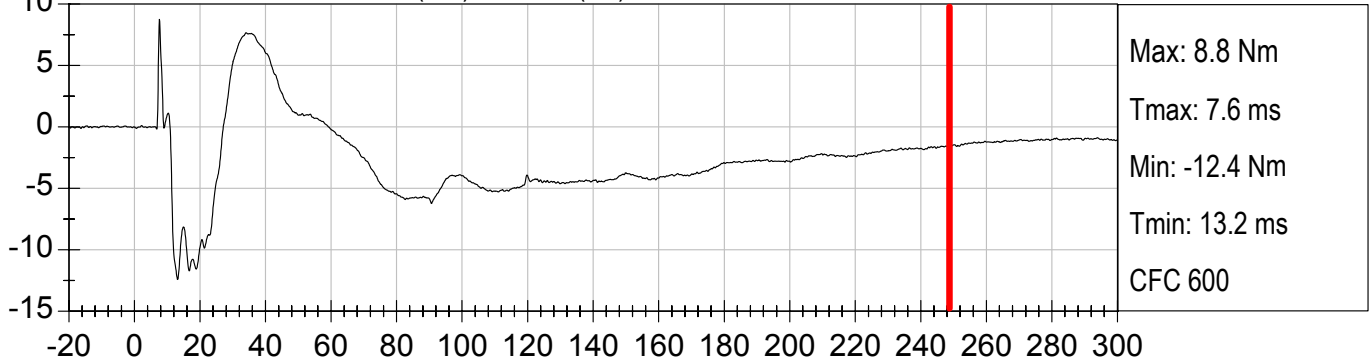


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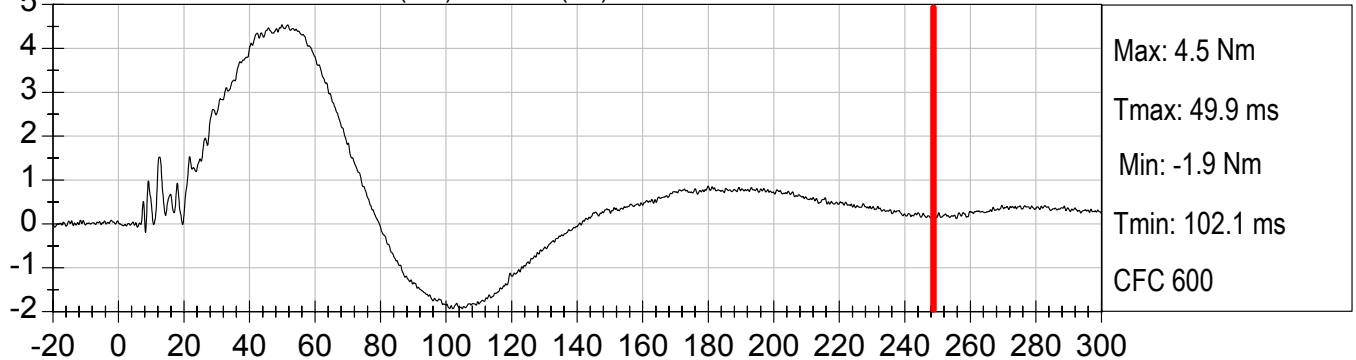
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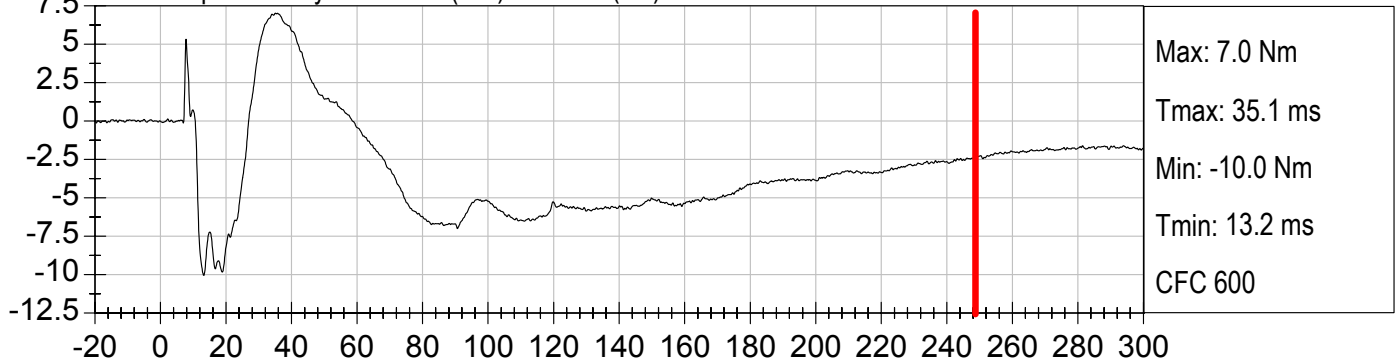
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5TH FEM. DRIVER NECK MZ (Nm) vs TIME (ms)

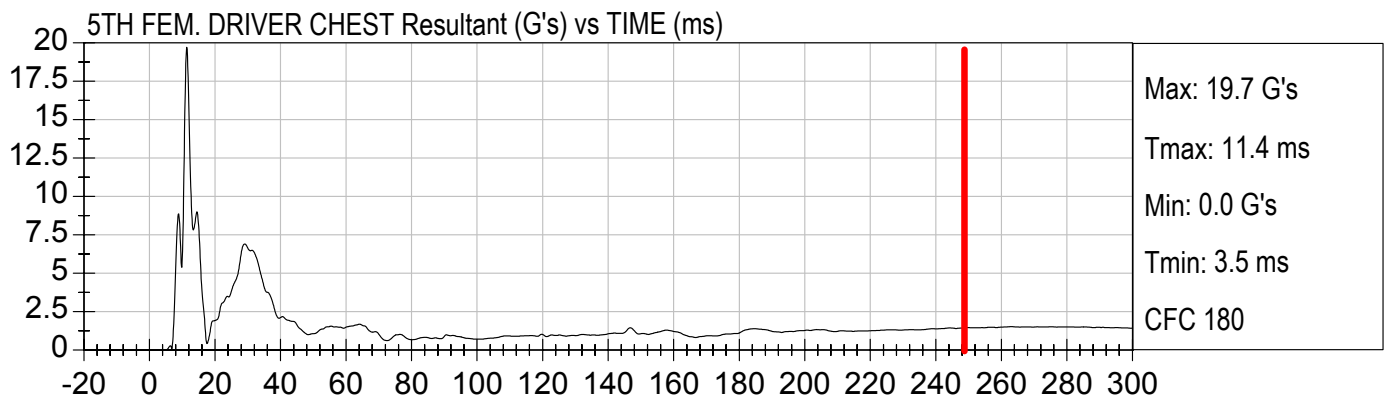
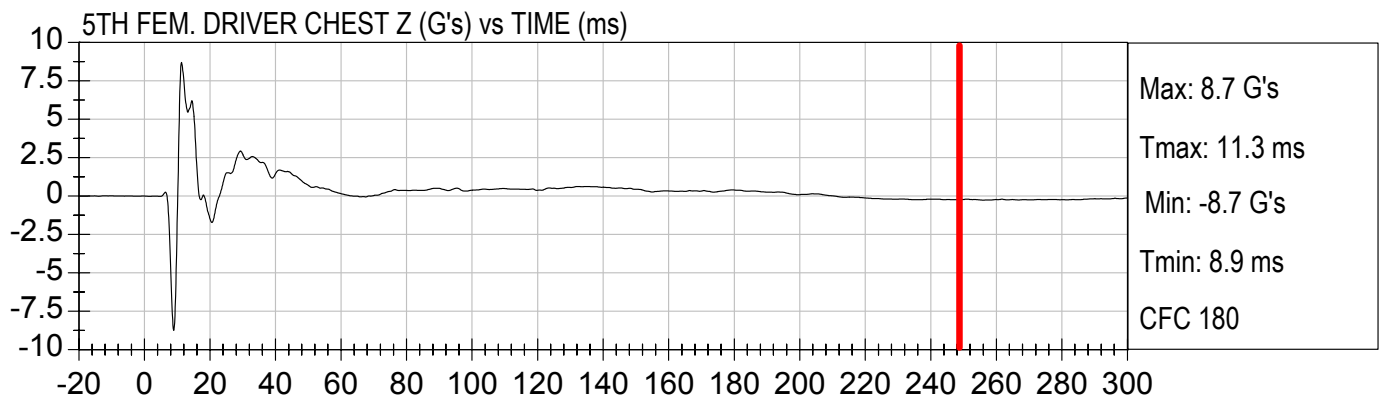
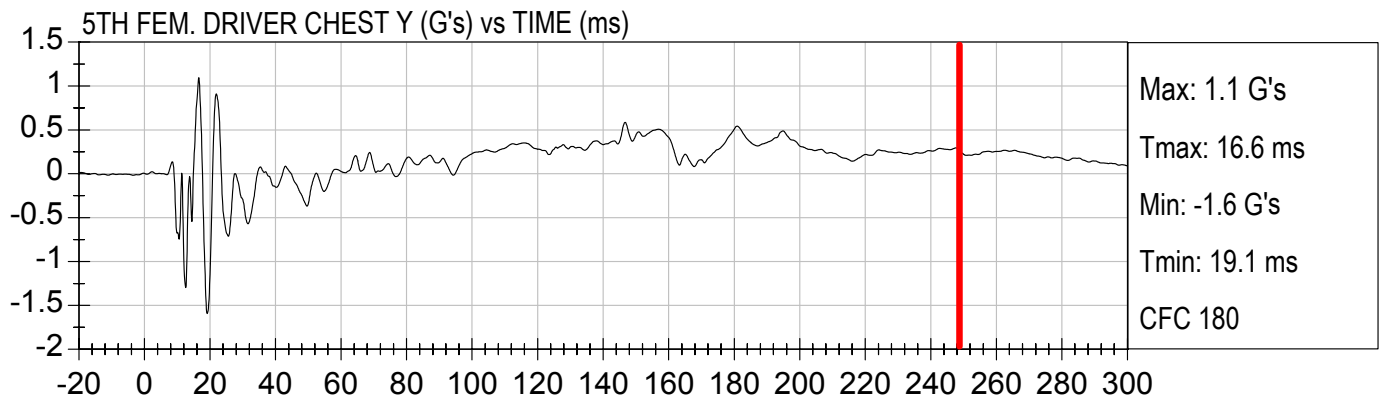
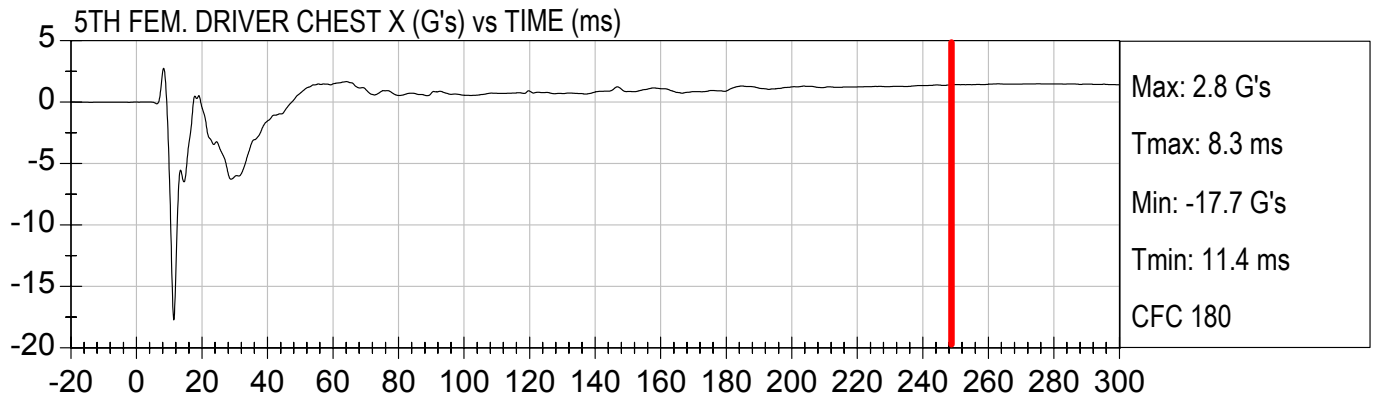


Drv. Occipital Condyle Moment (Nm) vs TIME (ms)





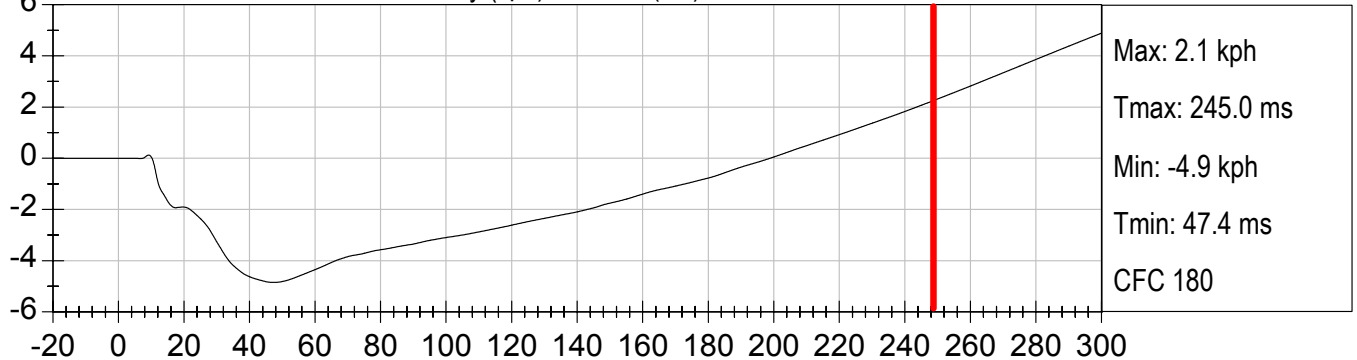
Injury Values Calculated between 0ms and 245ms



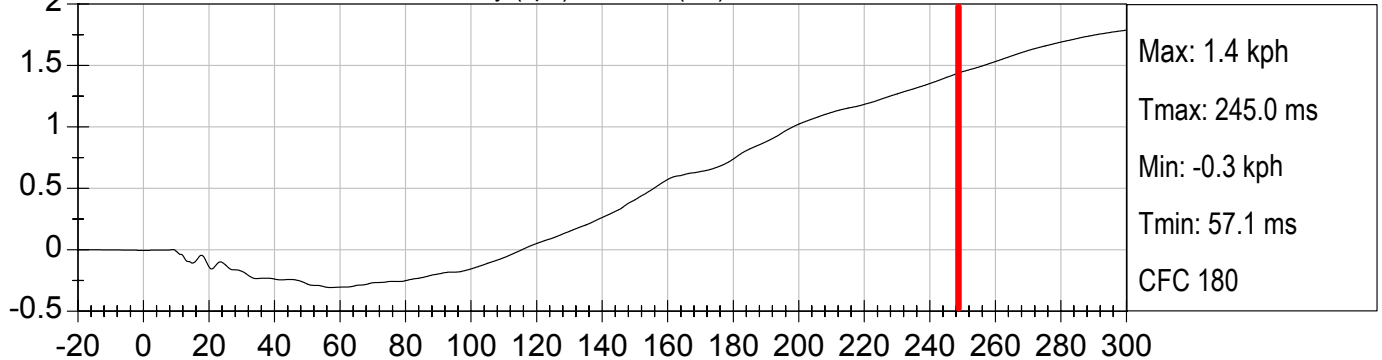


Injury Values Calculated between 0ms and 245ms

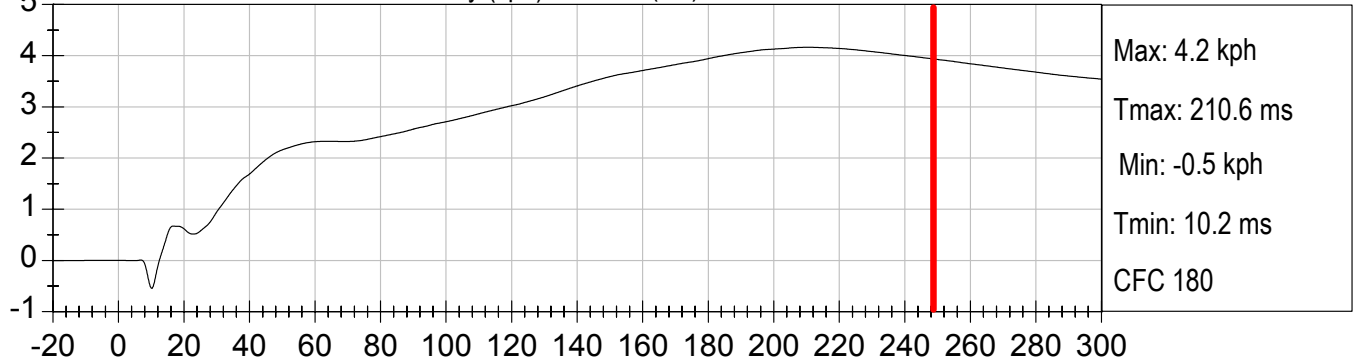
5TH FEM. DRIVER CHEST X Velocity (kph) vs TIME (ms)



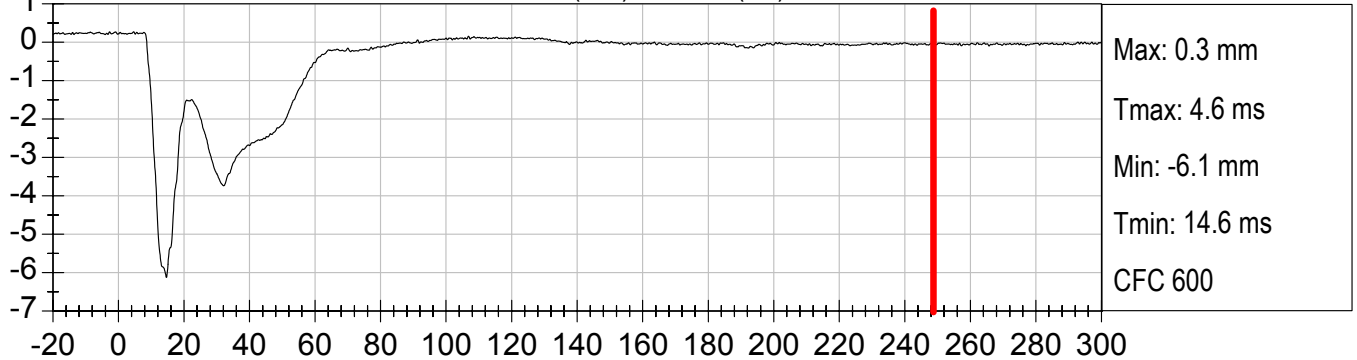
5TH FEM. DRIVER CHEST Y Velocity (kph) vs TIME (ms)



5TH FEM. DRIVER CHEST Z Velocity (kph) vs TIME (ms)



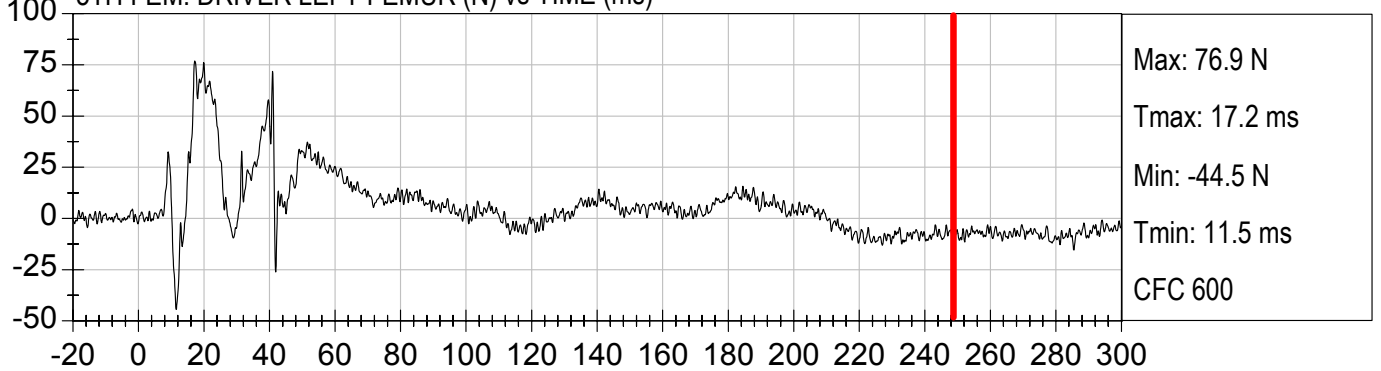
5TH FEM. DRIVER CHEST DISPLACEMENT (mm) vs TIME (ms)



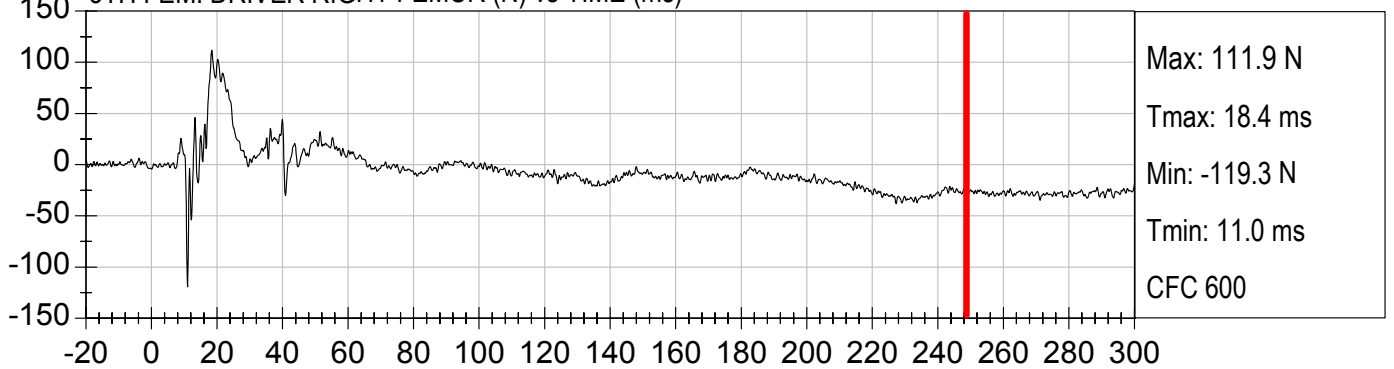


Injury Values Calculated between 0ms and 245ms

5TH FEM. DRIVER LEFT FEMUR (N) vs TIME (ms)

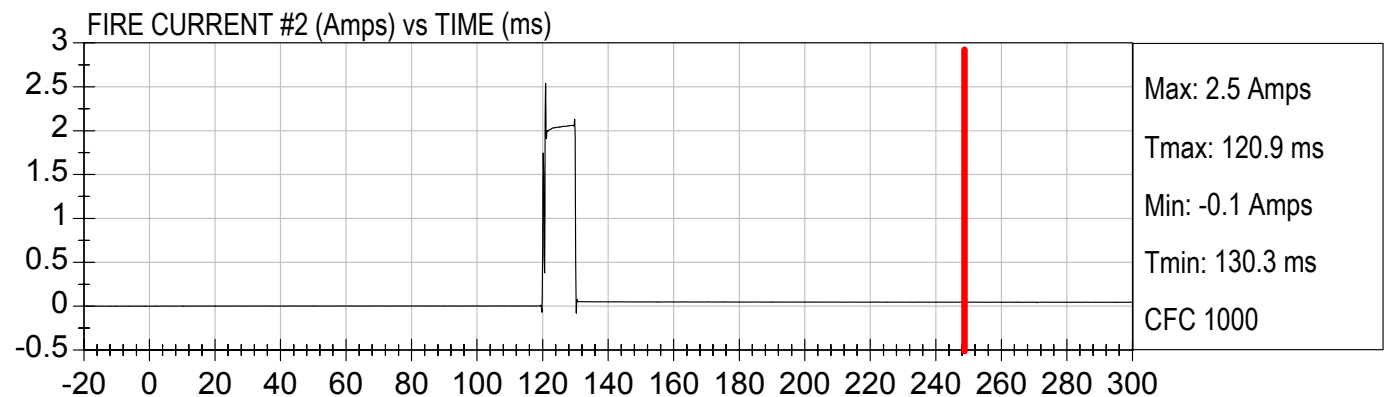
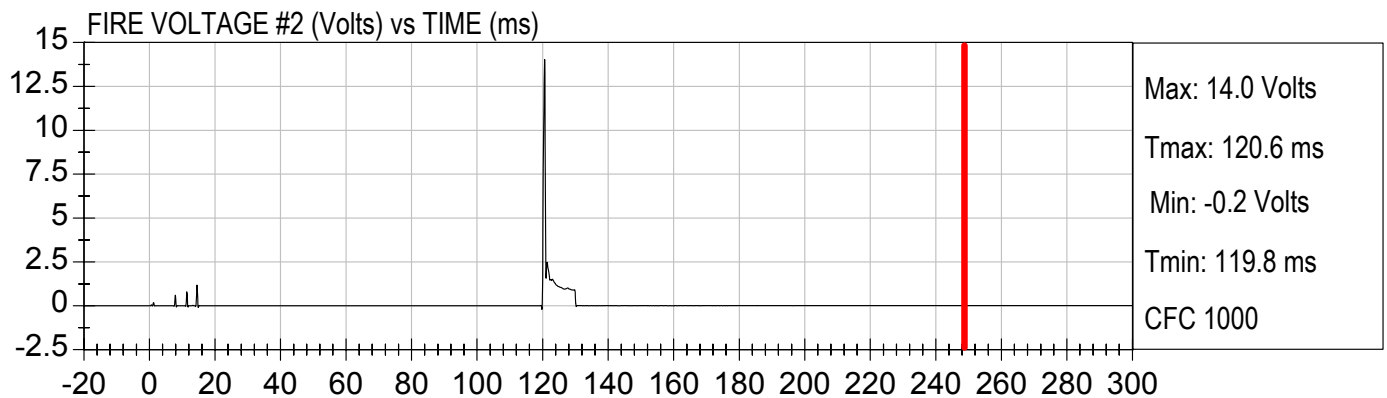
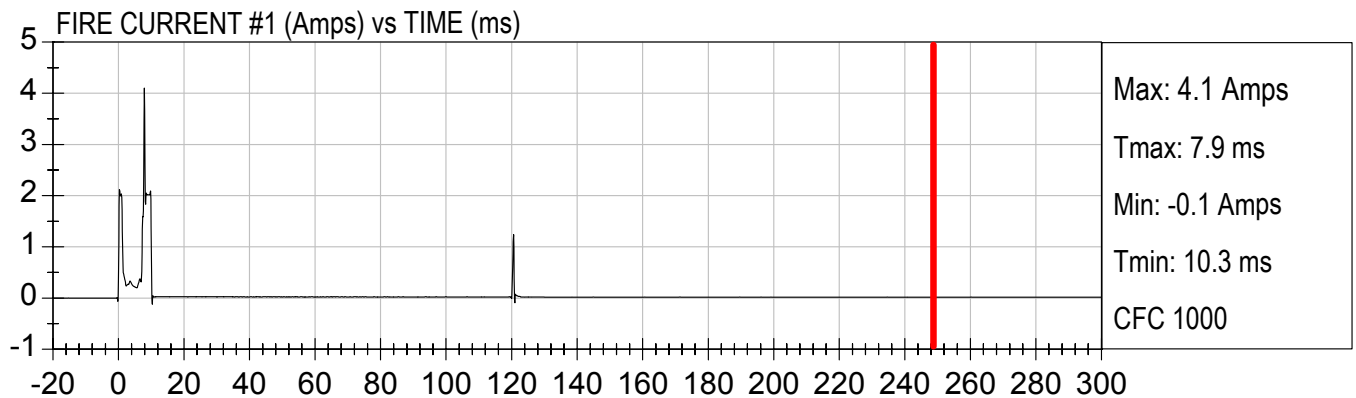
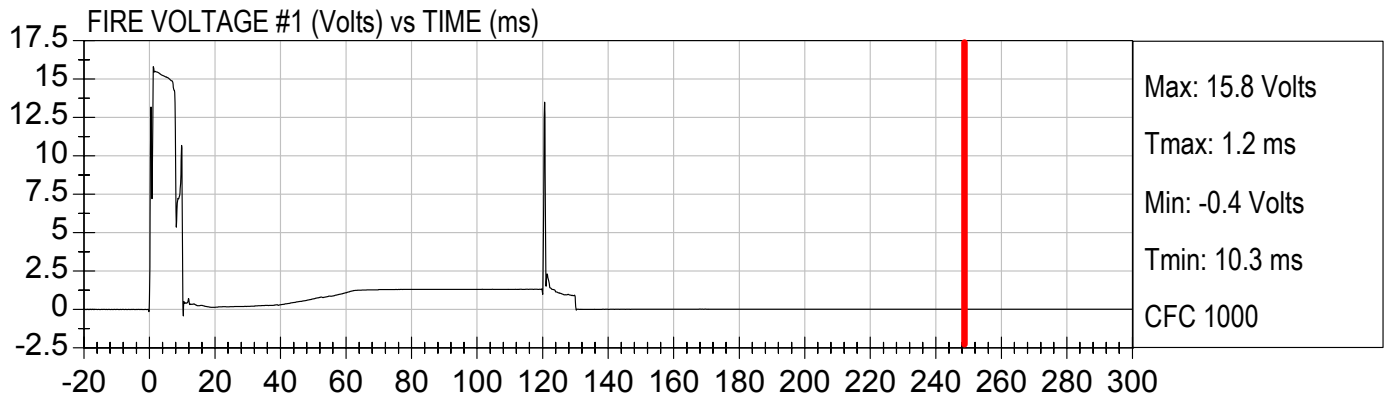


5TH FEM. DRIVER RIGHT FEMUR (N) vs TIME (ms)





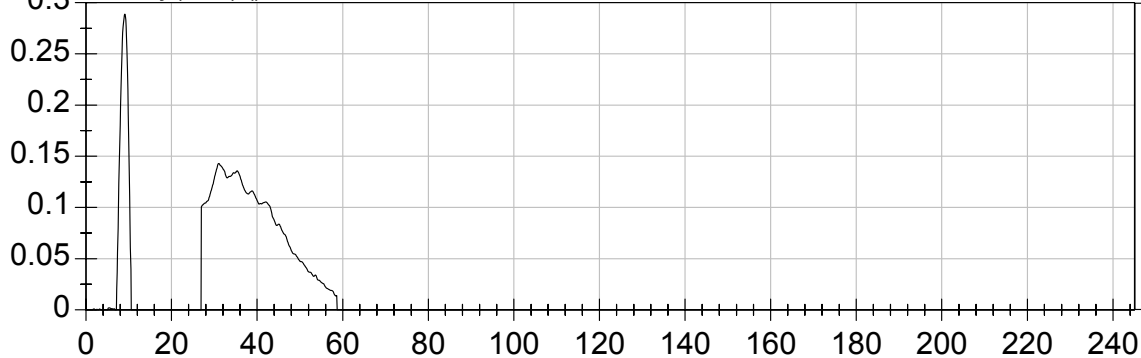
Injury Values Calculated between 0ms and 245ms



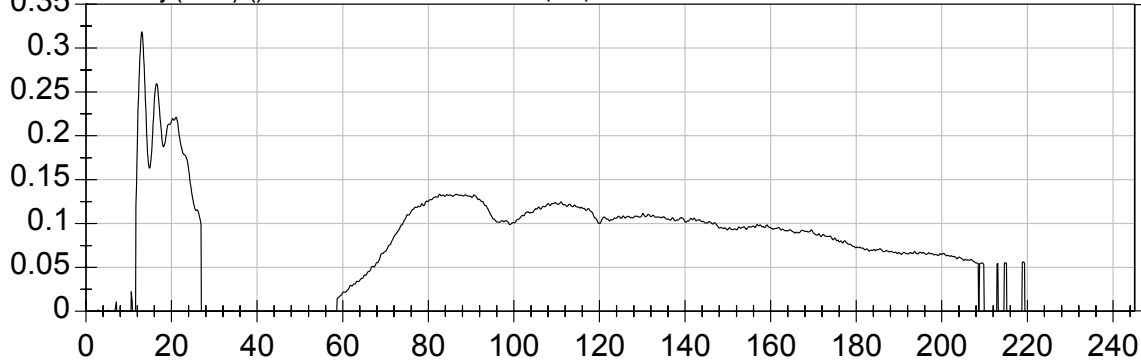




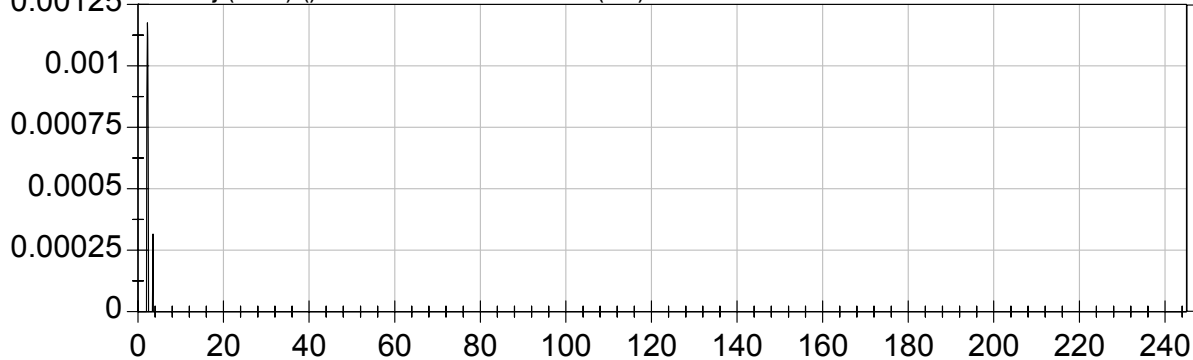
Drv. nij (NTF) ( ) vs TIME SPECIAL CHS (ms)



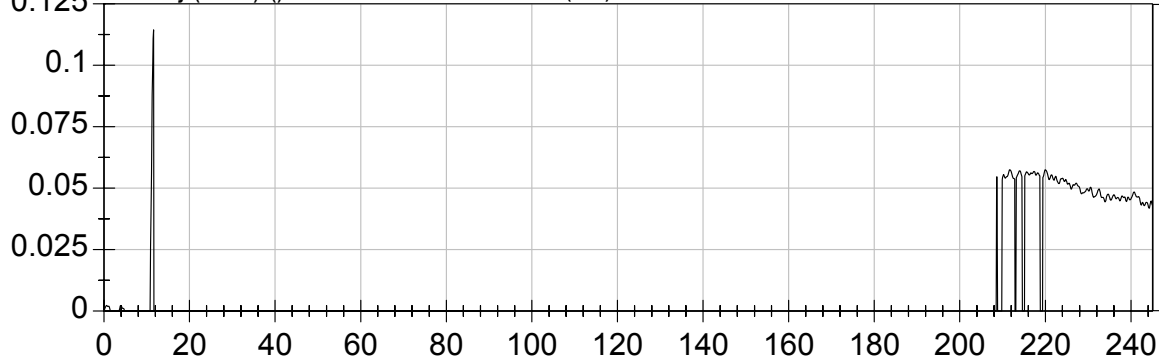
Drv. nij (NTE) ( ) vs TIME SPECIAL CHS (ms)



Drv. nij (NCF) ( ) vs TIME SPECIAL CHS (ms)

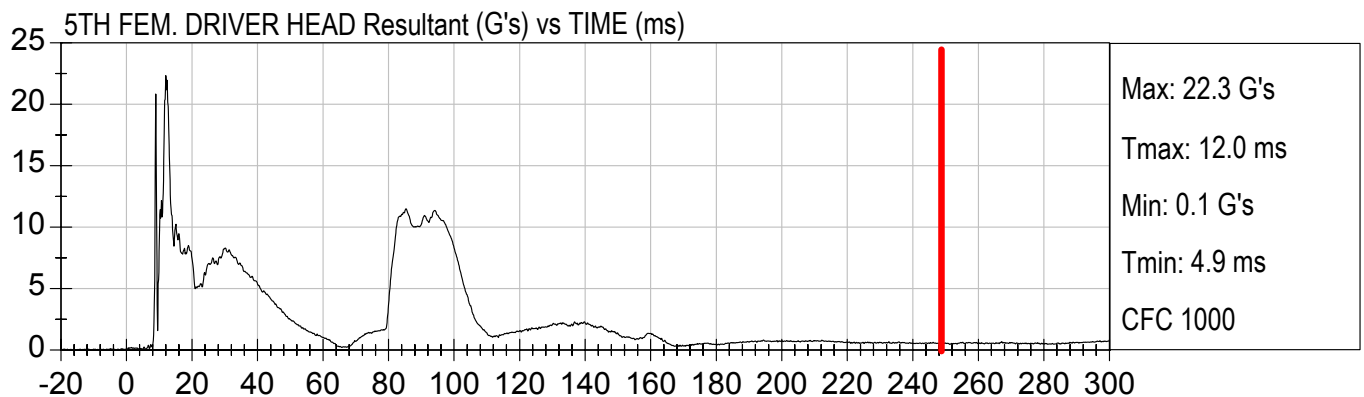
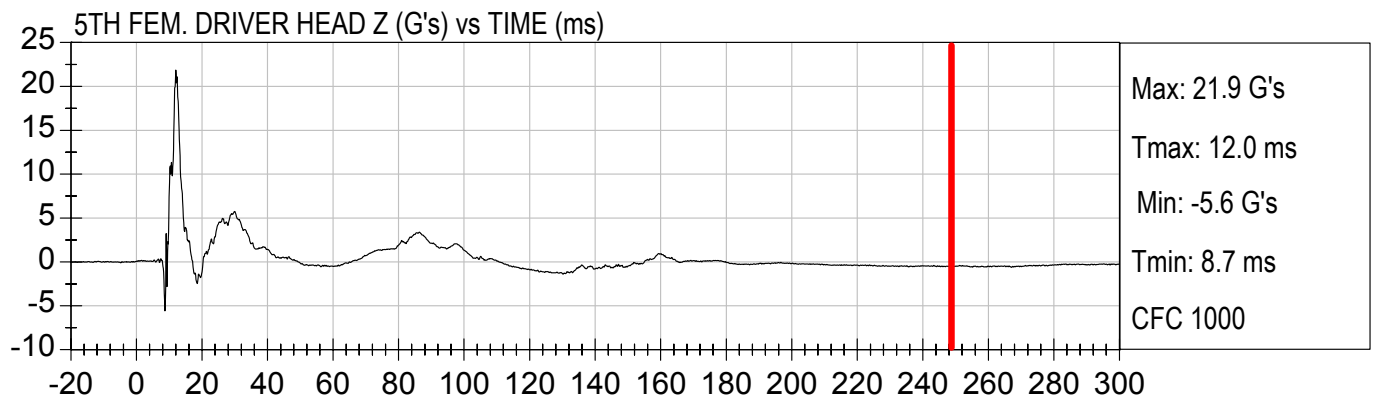
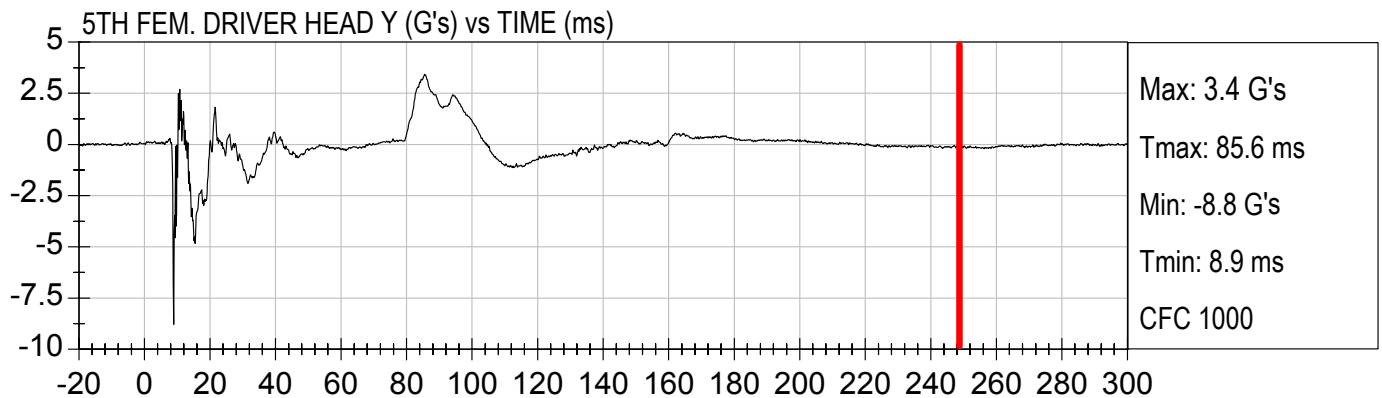
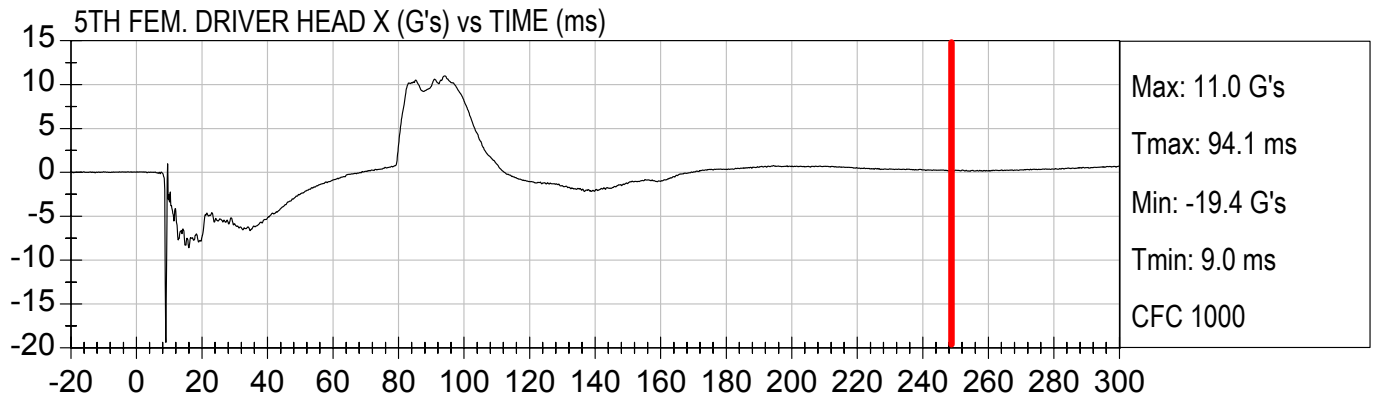


Drv. nij (NCE) ( ) vs TIME SPECIAL CHS (ms)



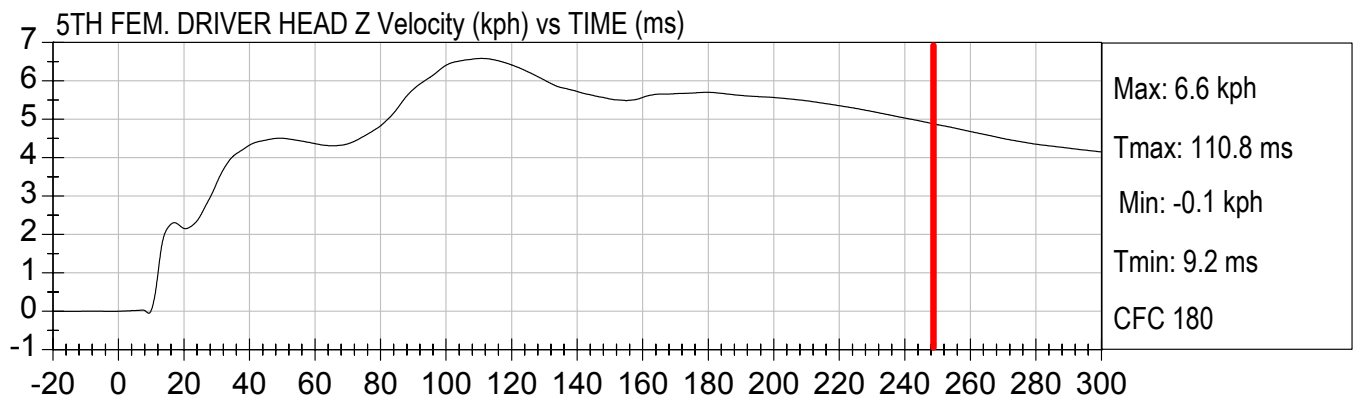
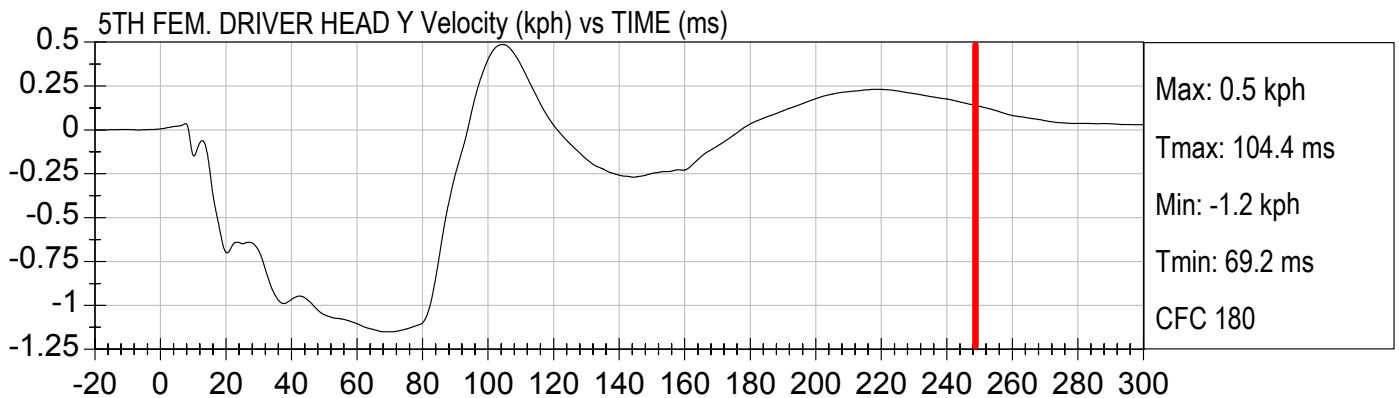
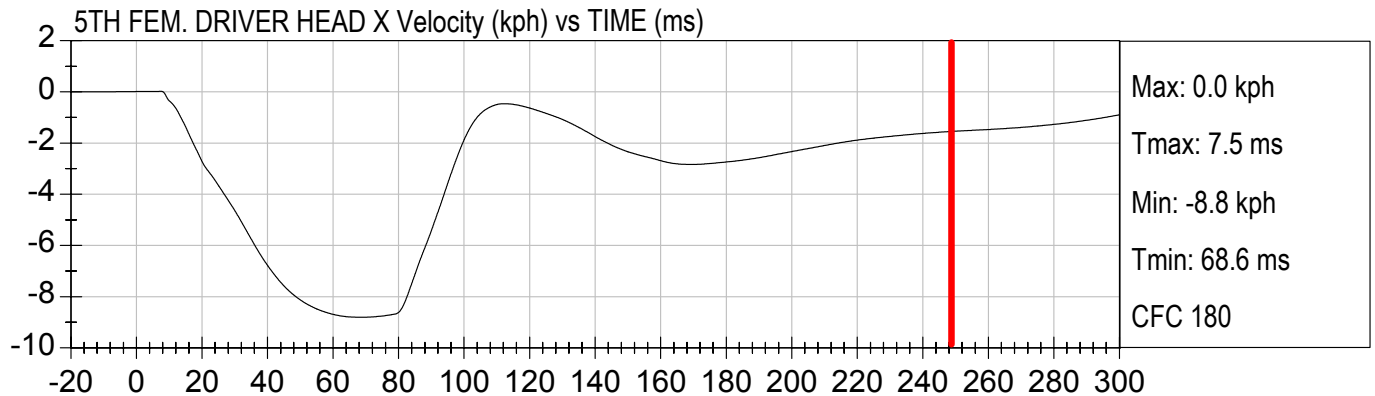


Injury Values Calculated between 0ms and 245ms



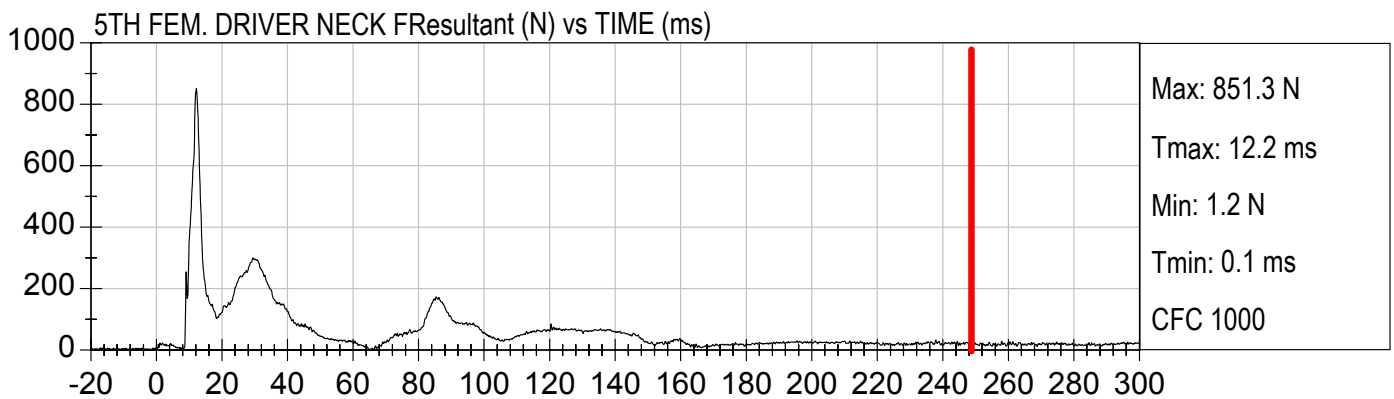
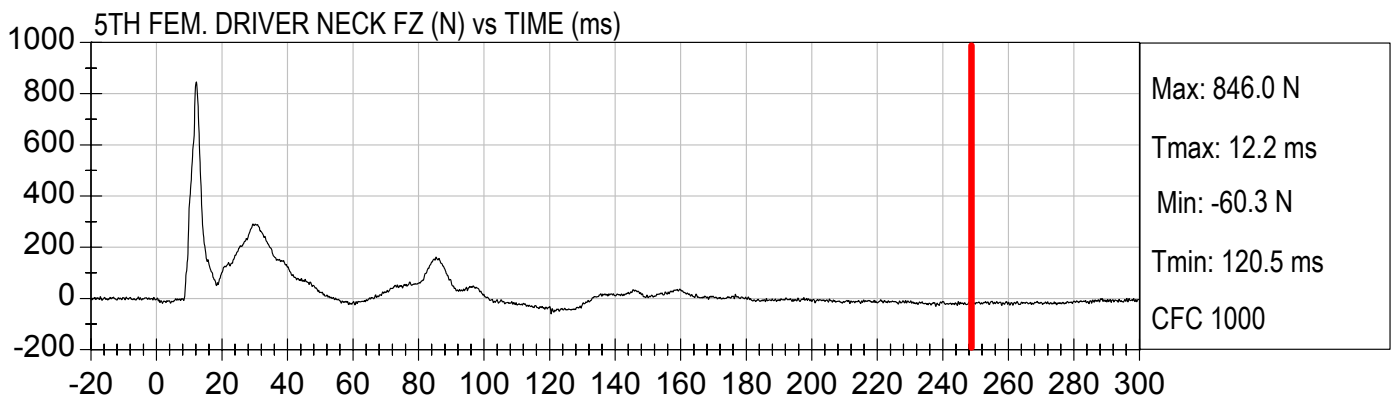
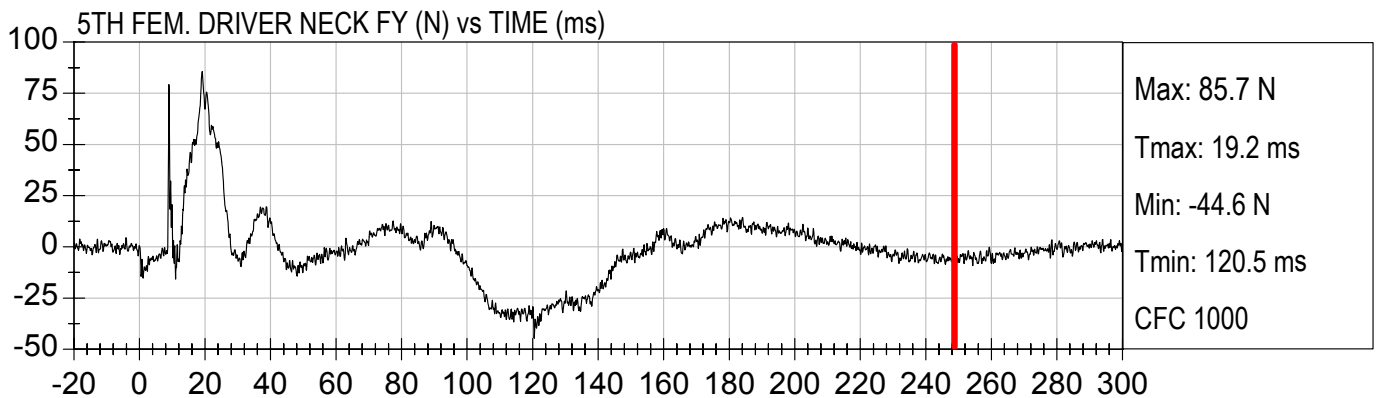
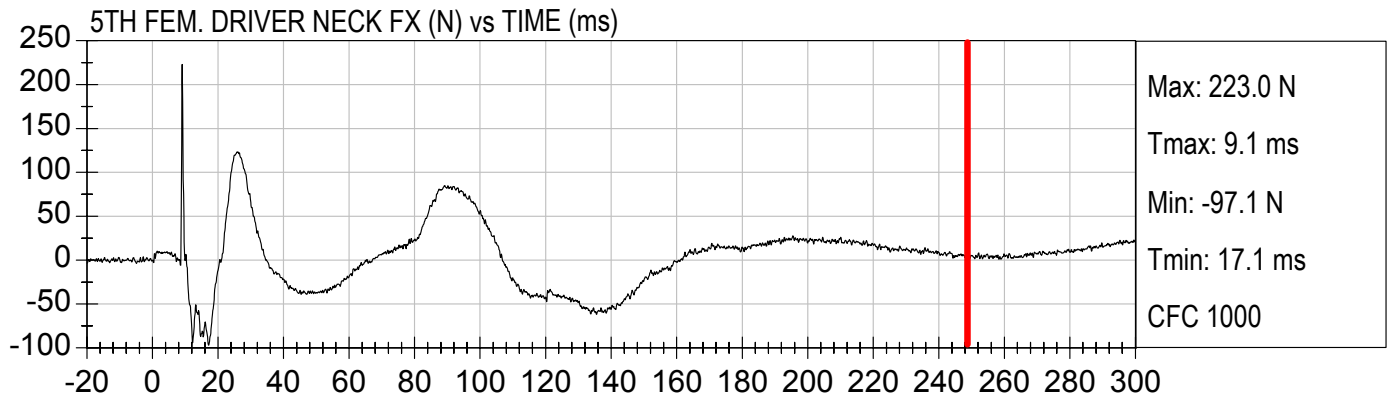


Injury Values Calculated between 0ms and 245ms



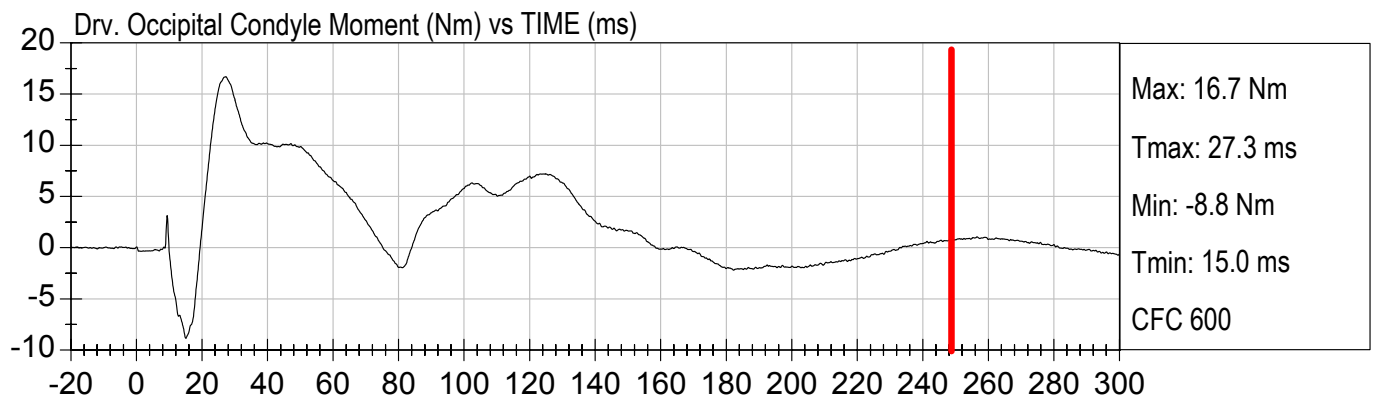
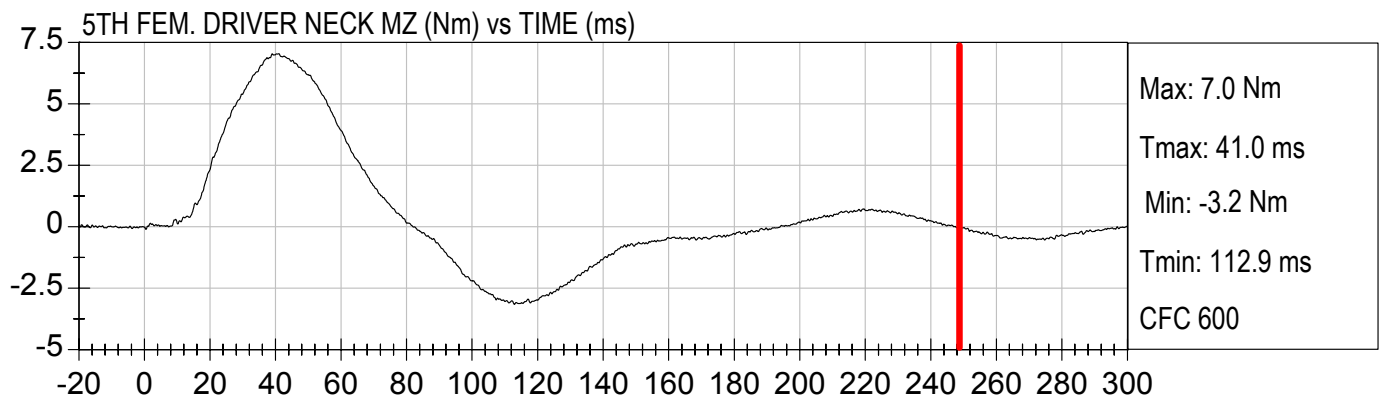
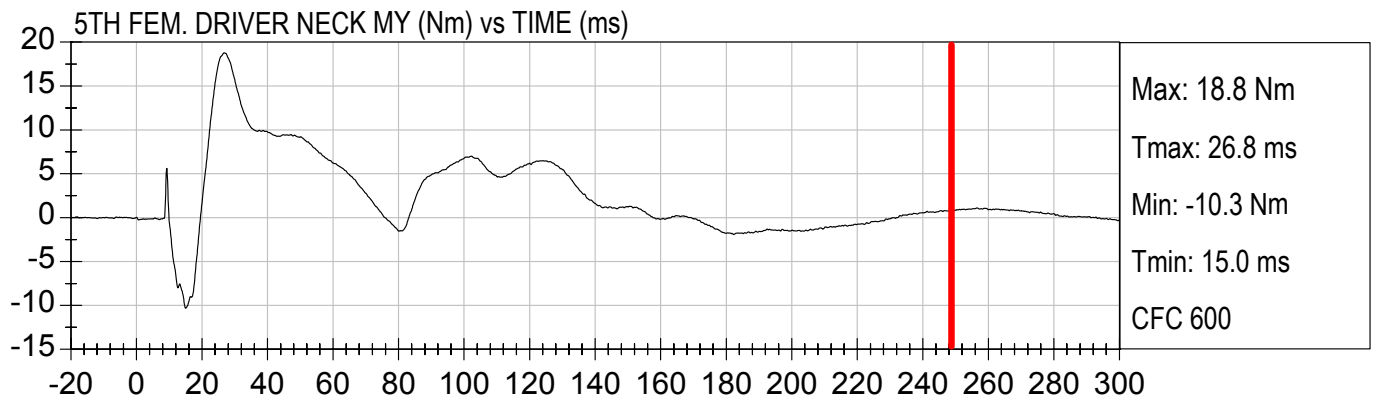
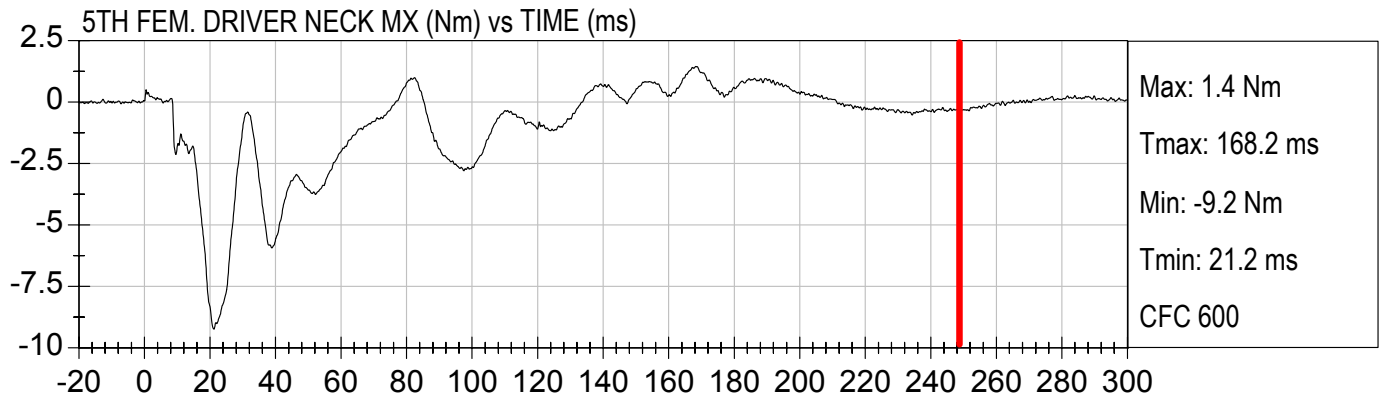


Injury Values Calculated between 0ms and 245ms



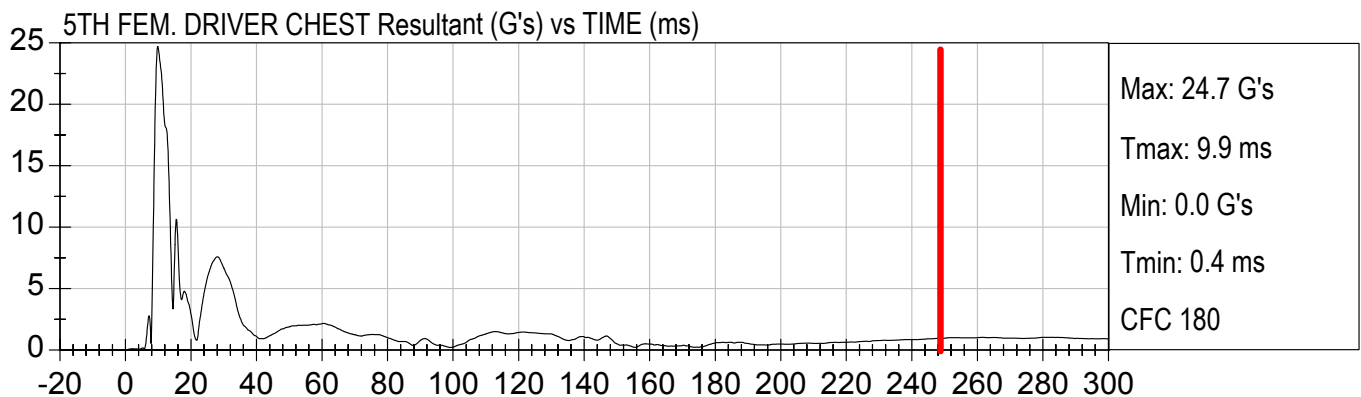
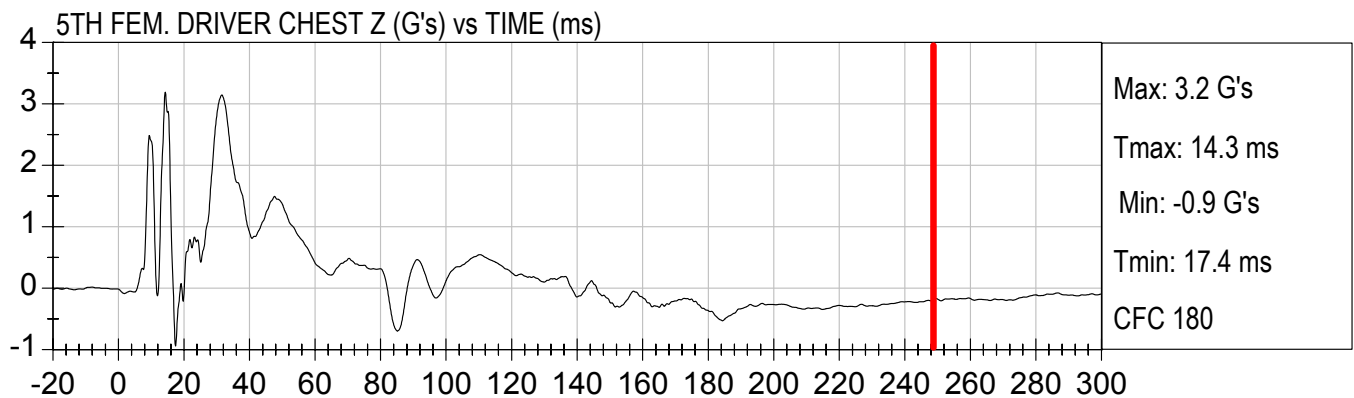
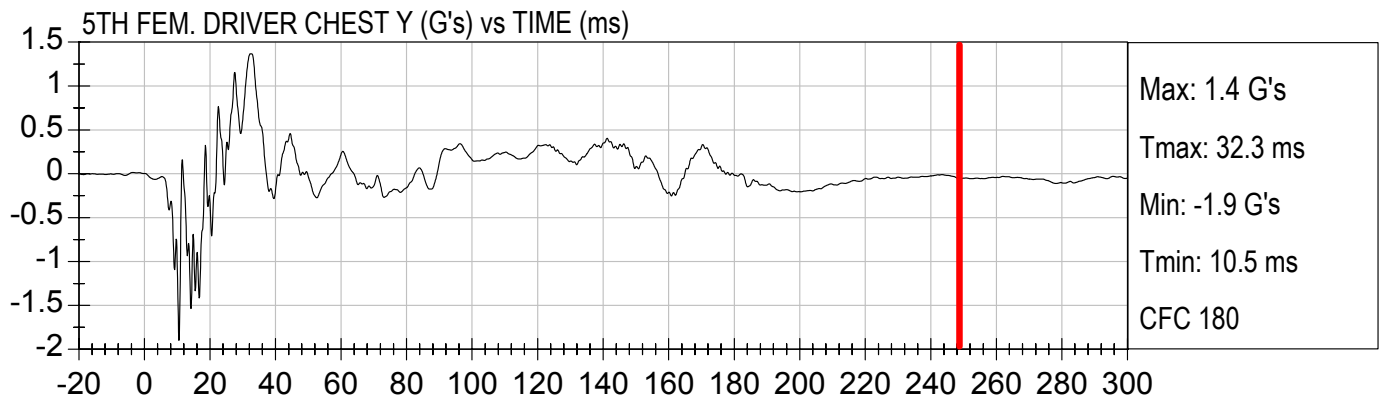
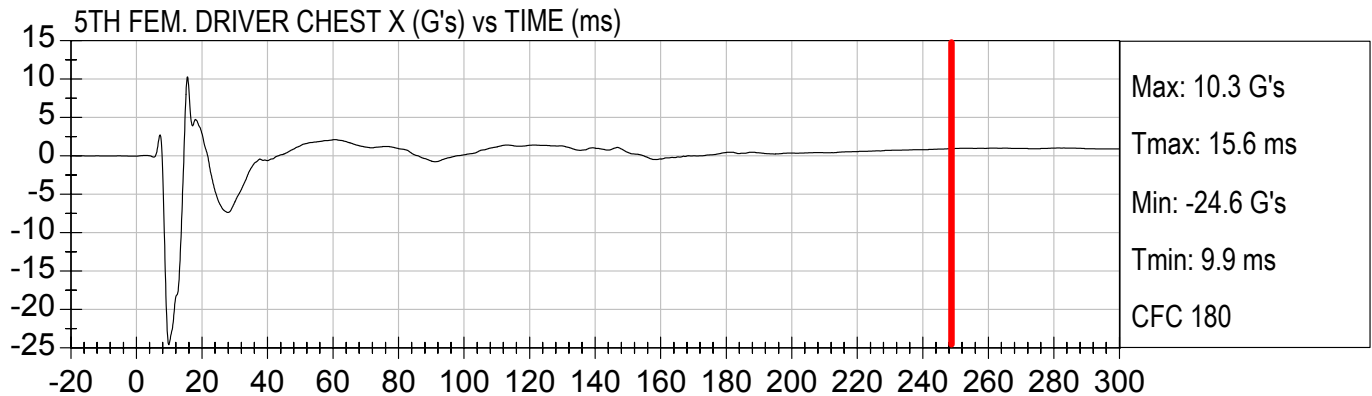


Injury Values Calculated between 0ms and 245ms





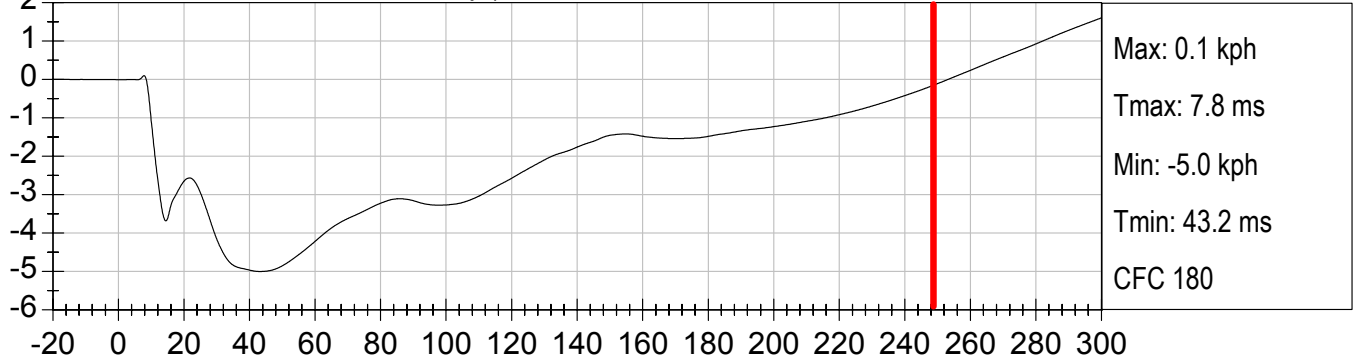
Injury Values Calculated between 0ms and 245ms



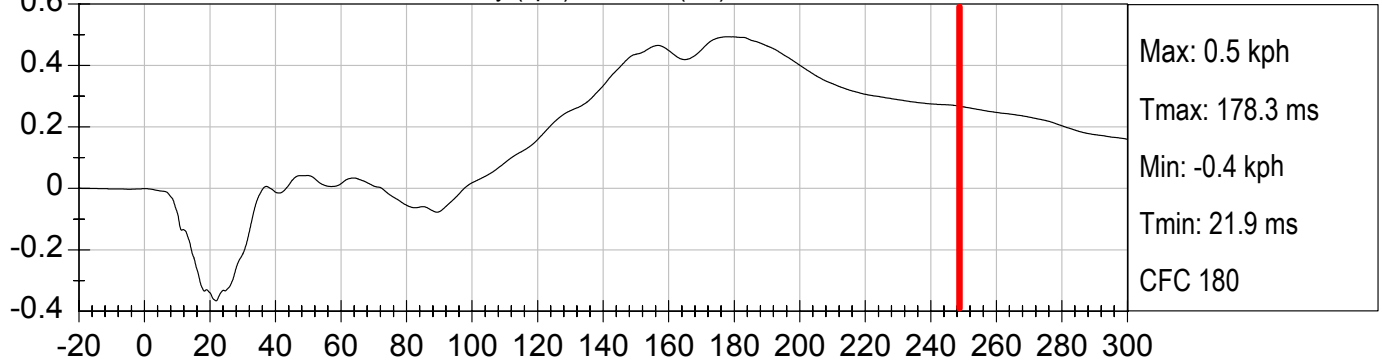


Injury Values Calculated between 0ms and 245ms

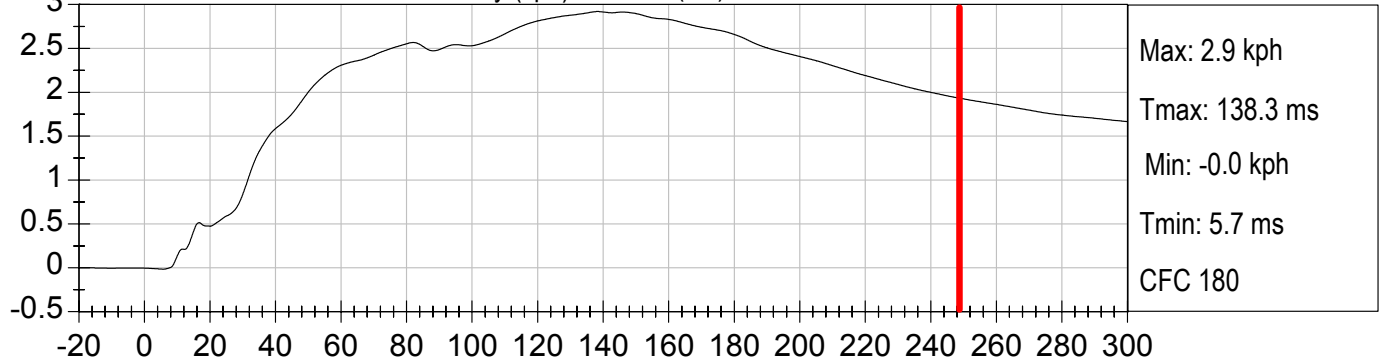
5TH FEM. DRIVER CHEST X Velocity (kph) vs TIME (ms)



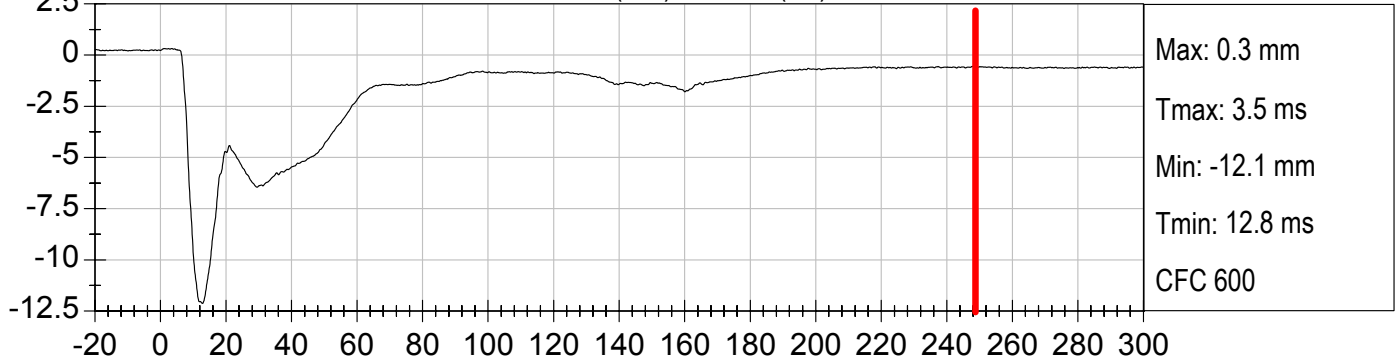
5TH FEM. DRIVER CHEST Y Velocity (kph) vs TIME (ms)



5TH FEM. DRIVER CHEST Z Velocity (kph) vs TIME (ms)



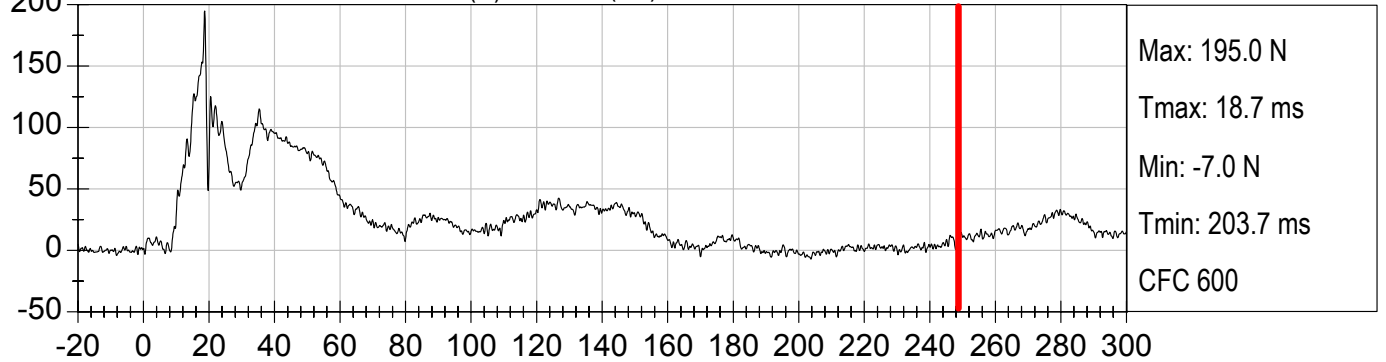
5TH FEM. DRIVER CHEST DISPLACEMENT (mm) vs TIME (ms)



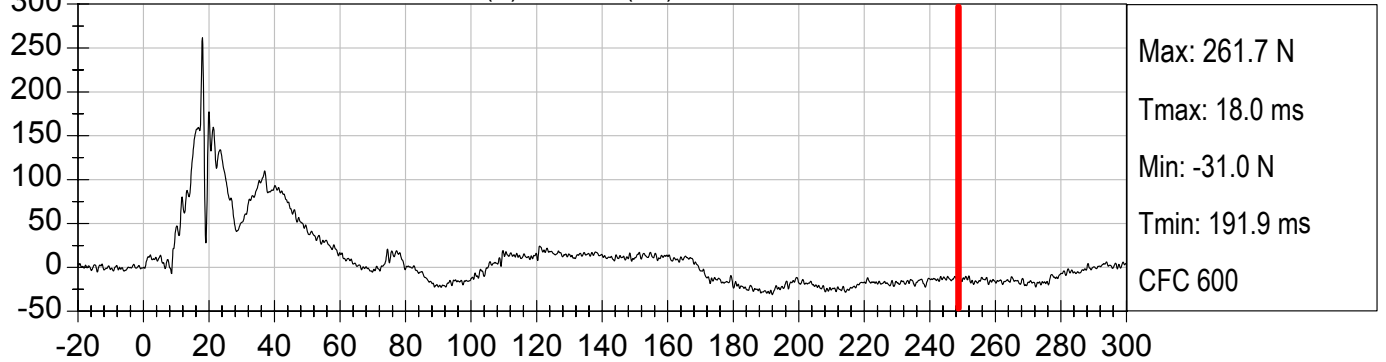


Injury Values Calculated between 0ms and 245ms

5TH FEM. DRIVER LEFT FEMUR (N) vs TIME (ms)



5TH FEM. DRIVER RIGHT FEMUR (N) vs TIME (ms)

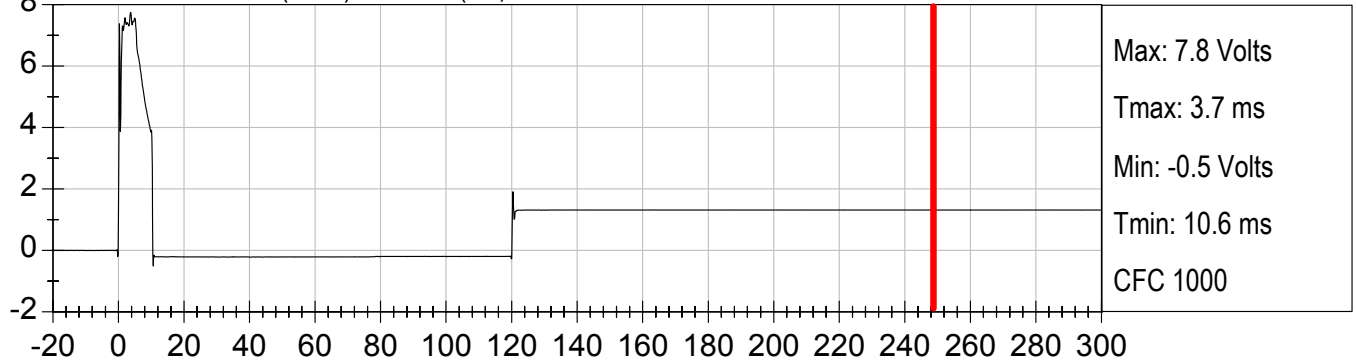




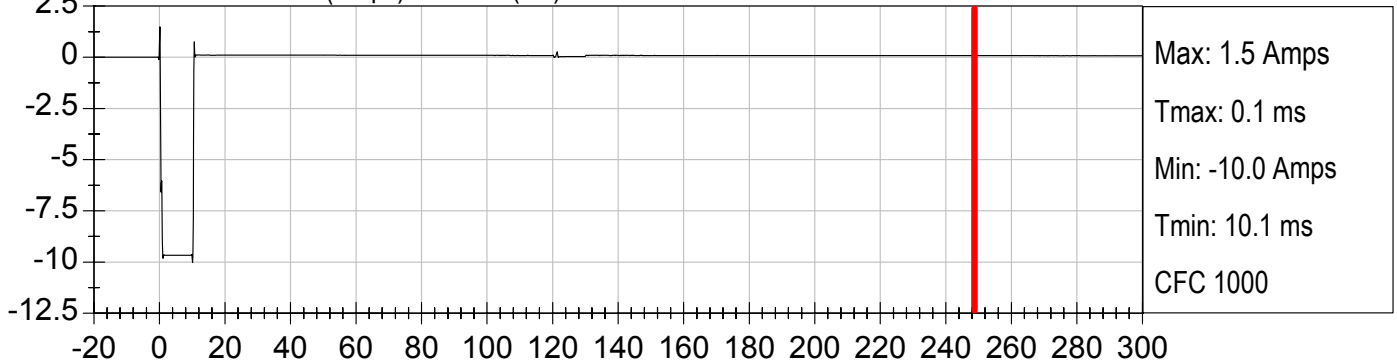


Injury Values Calculated between 0ms and 245ms

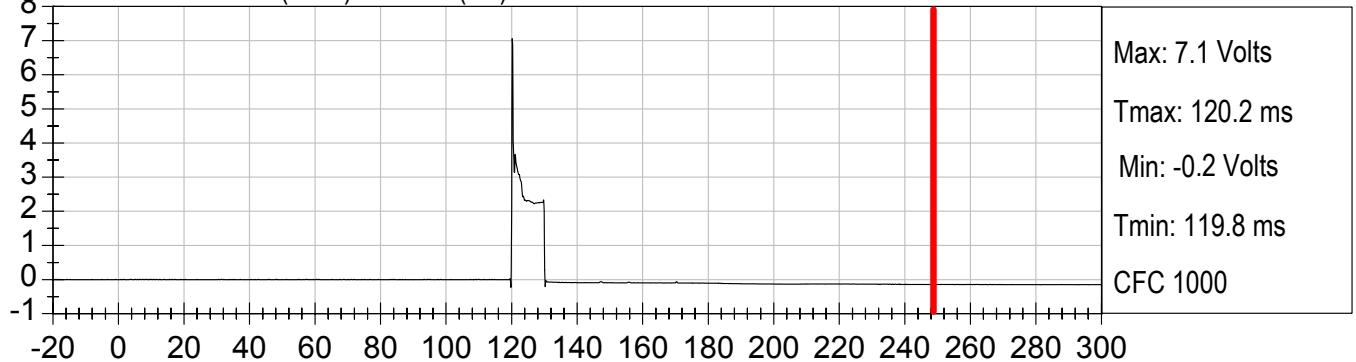
FIRE VOLTAGE #1 (Volts) vs TIME (ms)



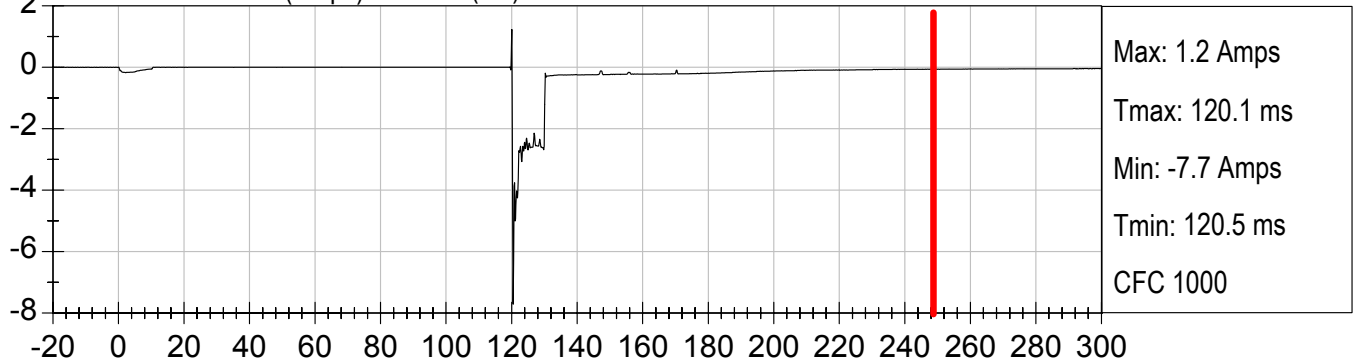
FIRE CURRENT #1 (Amps) vs TIME (ms)



FIRE VOLTAGE #2 (Volts) vs TIME (ms)

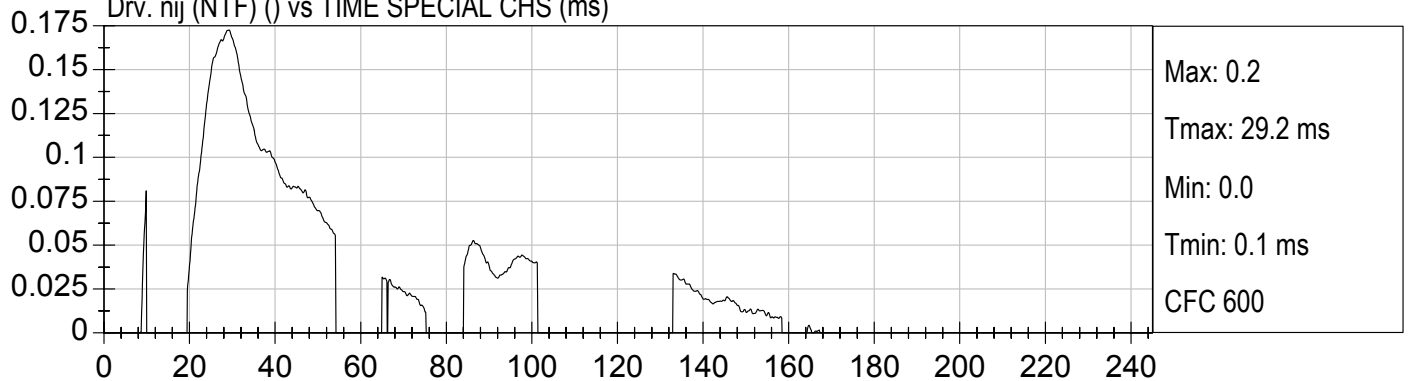


FIRE CURRENT #2 (Amps) vs TIME (ms)

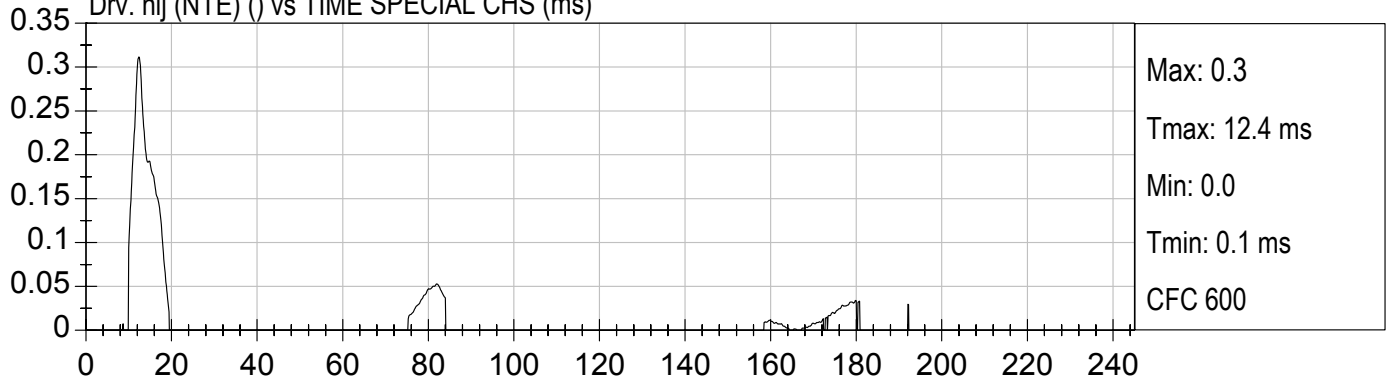




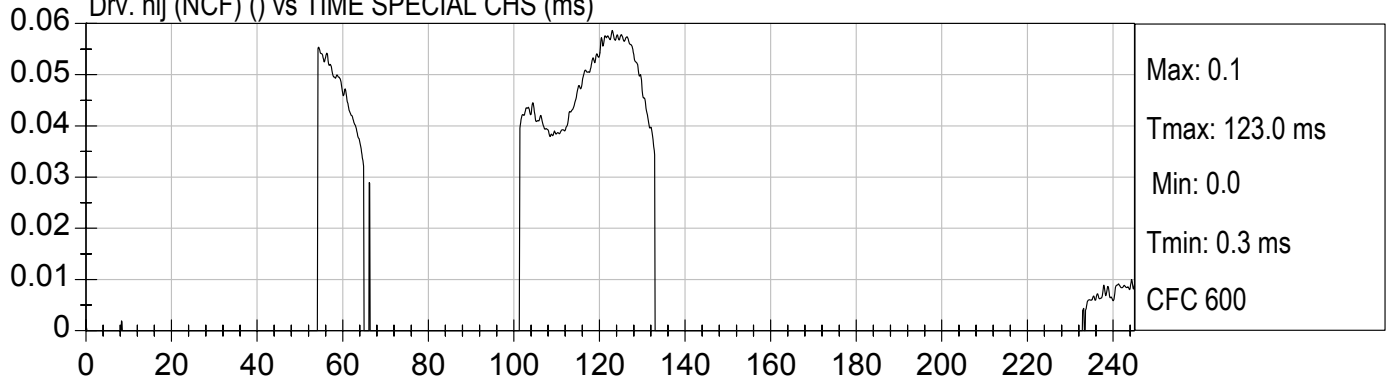
Drv. nij (NTF) ( ) vs TIME SPECIAL CHS (ms)



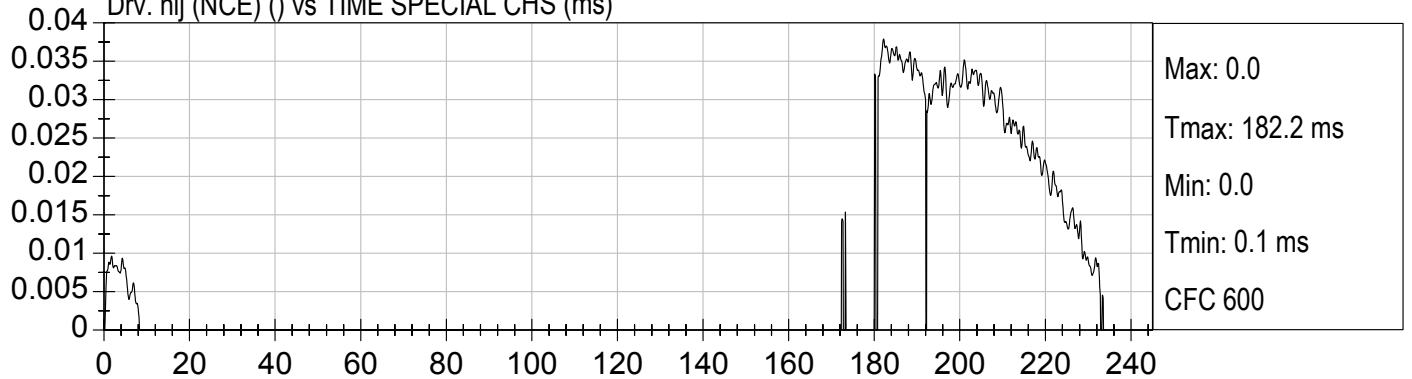
Drv. nij (NTE) ( ) vs TIME SPECIAL CHS (ms)



Drv. nij (NCF) ( ) vs TIME SPECIAL CHS (ms)



Drv. nij (NCE) ( ) vs TIME SPECIAL CHS (ms)



**APPENDIX C**  
**CRASH TEST PHOTOGRAPHS**

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MANUFACTURED IN KOREA BY  
 HYUNDAI MOTOR COMPANY

JUN/16/04

GVWR 3880 lbs

PAINT EB

GAWR  
FRONT

2116 lbs

GAWR  
REAR

1852 lbs

TRIM LT

THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S.A. FEDERAL  
MOTOR VEHICLE SAFETY, BUMPER AND THEFT PREVENTION STANDARDS  
IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE

V.I.N

KMHDN46DX5U934912  
PASSENGER CAR



1



## TIRE AND LOADING INFORMATION

SEATING CAPACITY

TOTAL 5

FRONT 2

REAR 3

The combined weight of occupants and cargo should never exceed 385 kg or 850 lbs.

ORIGINAL TIRE SIZE	COLD TIRE INFLATION PRESSURE	
P185/65R15	FRONT	210kPa, 30PSI
P195/60R15	REAR	210kPa, 30PSI
COMPACT SPARE TIRE	COLD TIRE INFLATION PRESSURE	
T125/70D15	420kPa, 60PSI	
T125/70R15		

**SEE OWNER'S  
MANUAL FOR  
ADDITIONAL  
INFORMATION**

Tire Placard





Pre-Test Front View of Test Vehicle





Post-Test Front View of Test Vehicle





Pre-Test Left Side View of Test Vehicle





Post-Test Left Side View of Test Vehicle





Pre-Test Right Side View of Test Vehicle





Post-Test Right Side View of Test Vehicle





Pre-Test Right Front Three-Quarter View of Test Vehicle





Pre-Test Left Front Three-Quarter View of Test Vehicle





Post-Test Left Front Three-Quarter View of Test Vehicle





Pre-Test Right Rear Three-Quarter View of Test Vehicle





Post-Test Right Rear Three-Quarter View of Test Vehicle





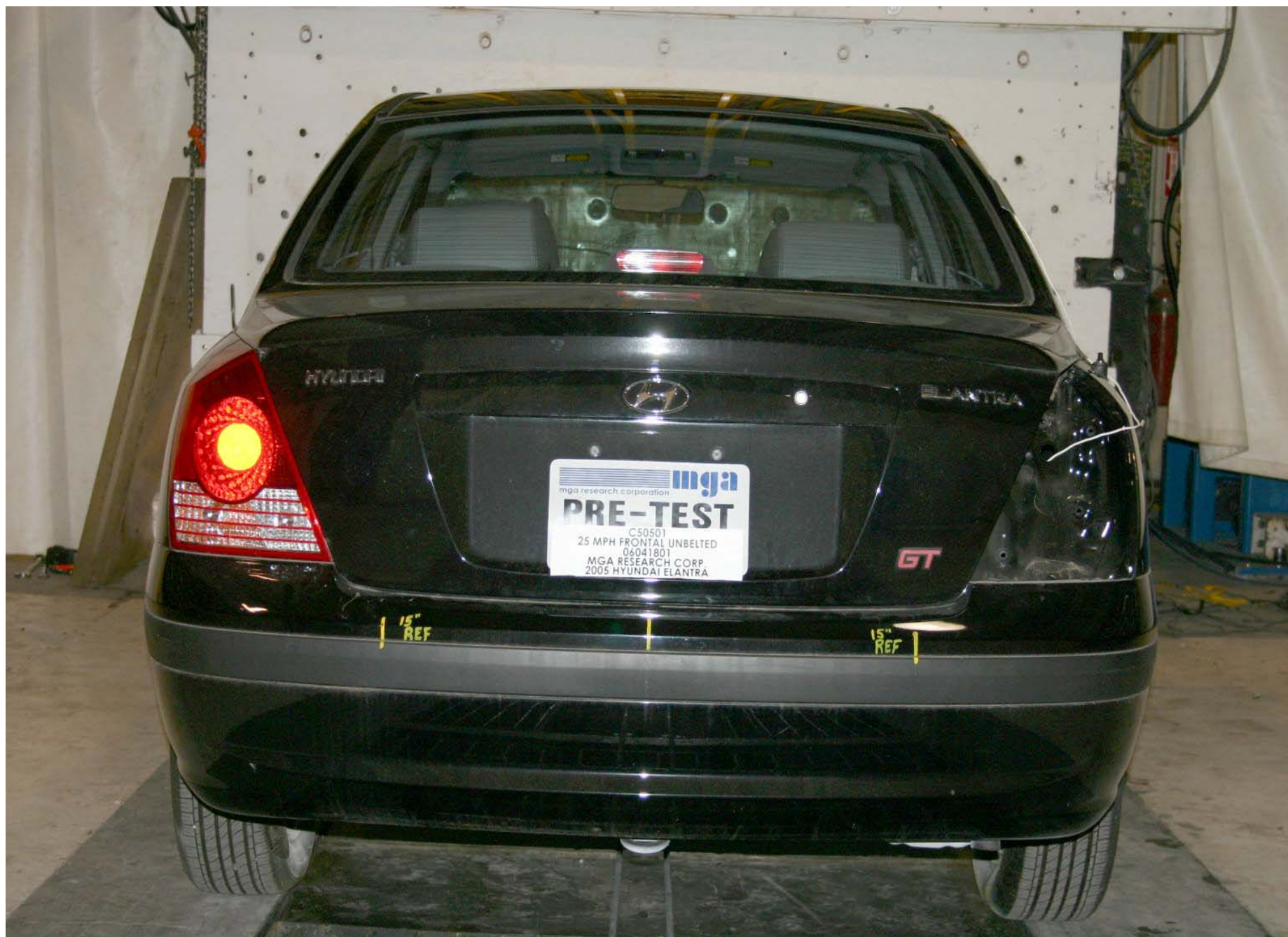
Pre-Test Left Rear Three-Quarter View of Test Vehicle





Post-Test Left Rear Three-Quarter View of Test Vehicle





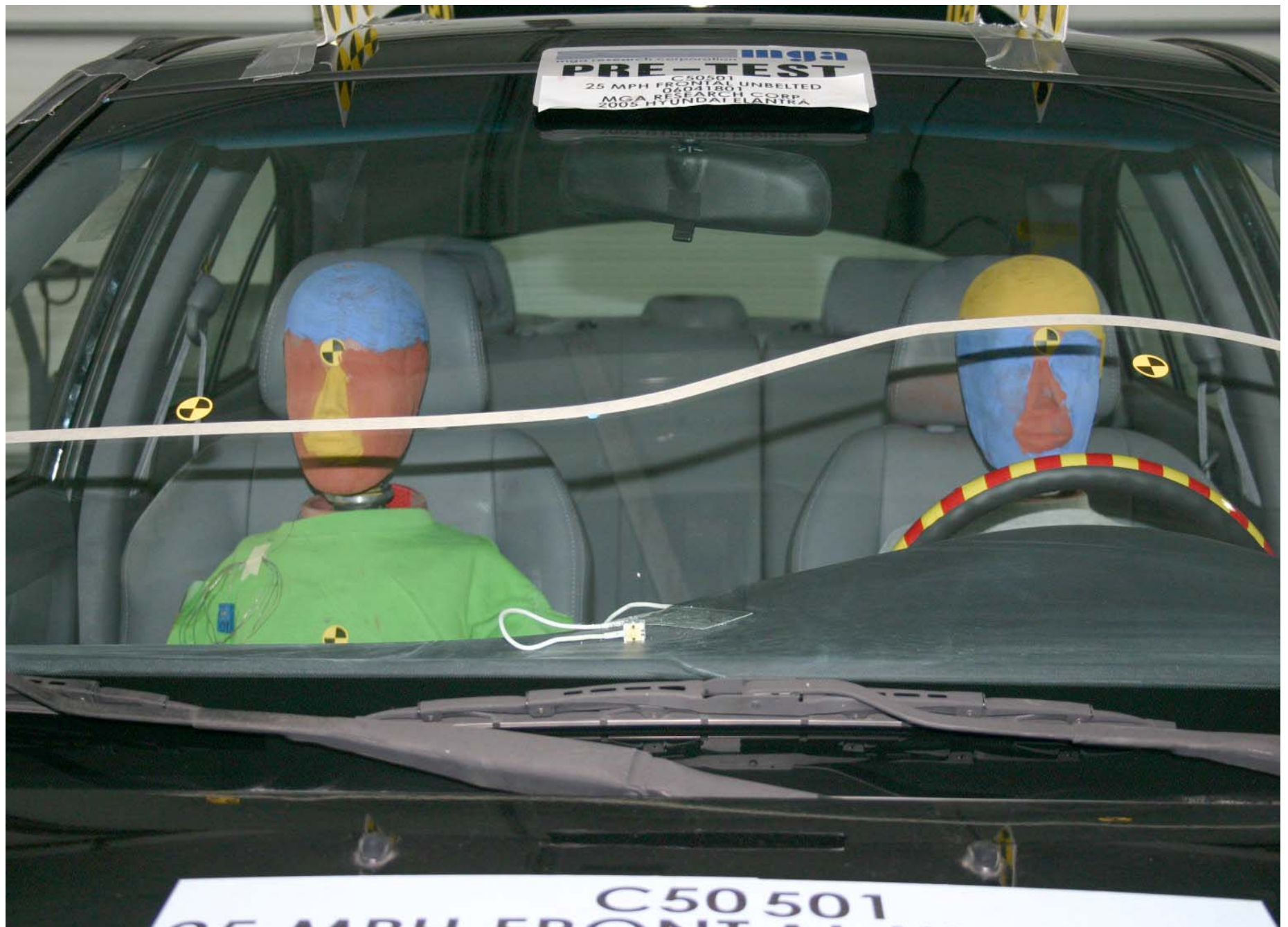
Pre-Test Rear View of Test Vehicle





Post-Test Rear View of Test Vehicle





Pre-Test Windshield View





Post-Test Windshield View





Pre-Test Engine Compartment View





Post-Test Engine Compartment View





Pre-Test Fuel Filler Cap View





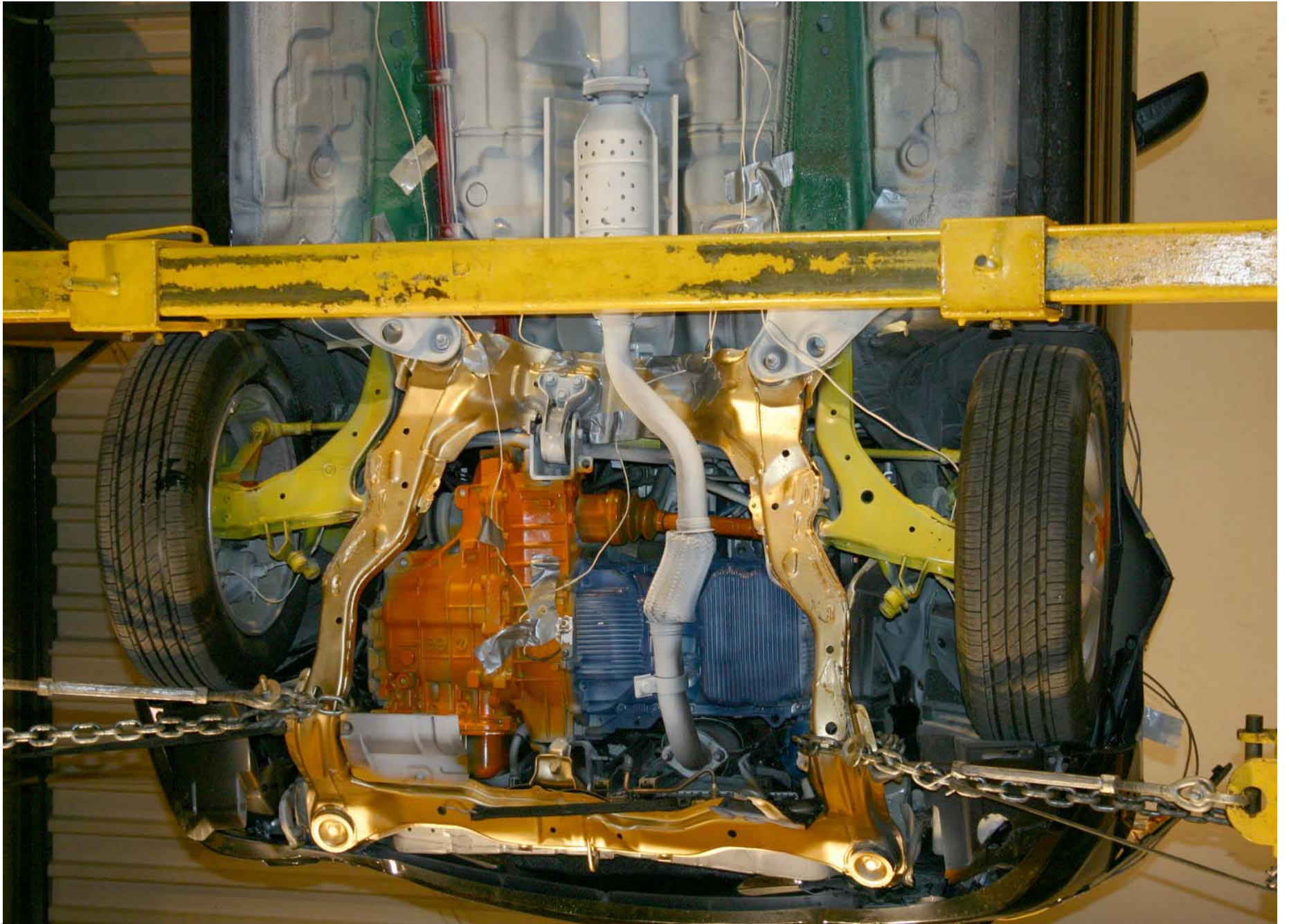
Post-Test Fuel Filler Cap View





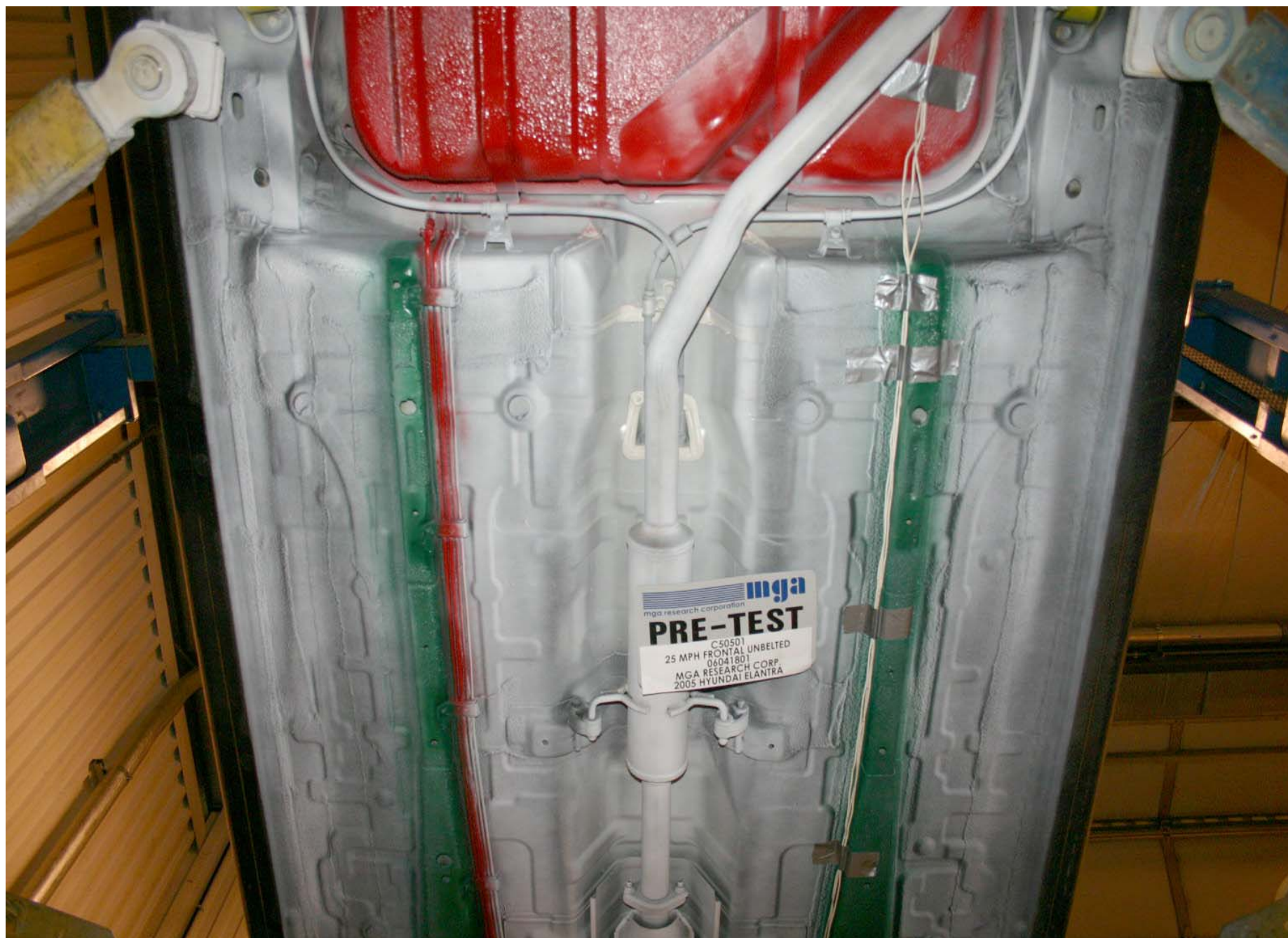
Pre-Test Front Underbody View





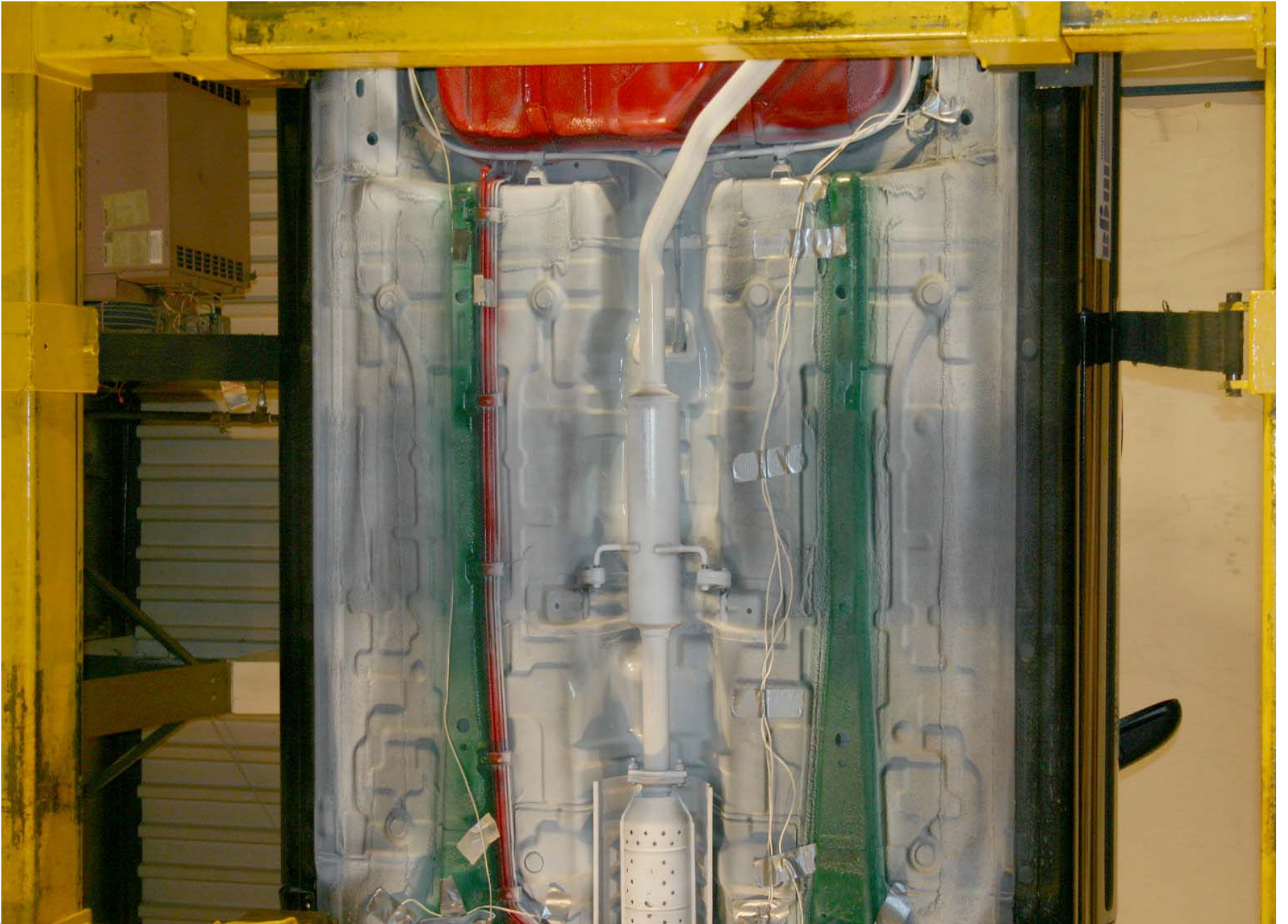
Post-Test Front Underbody View





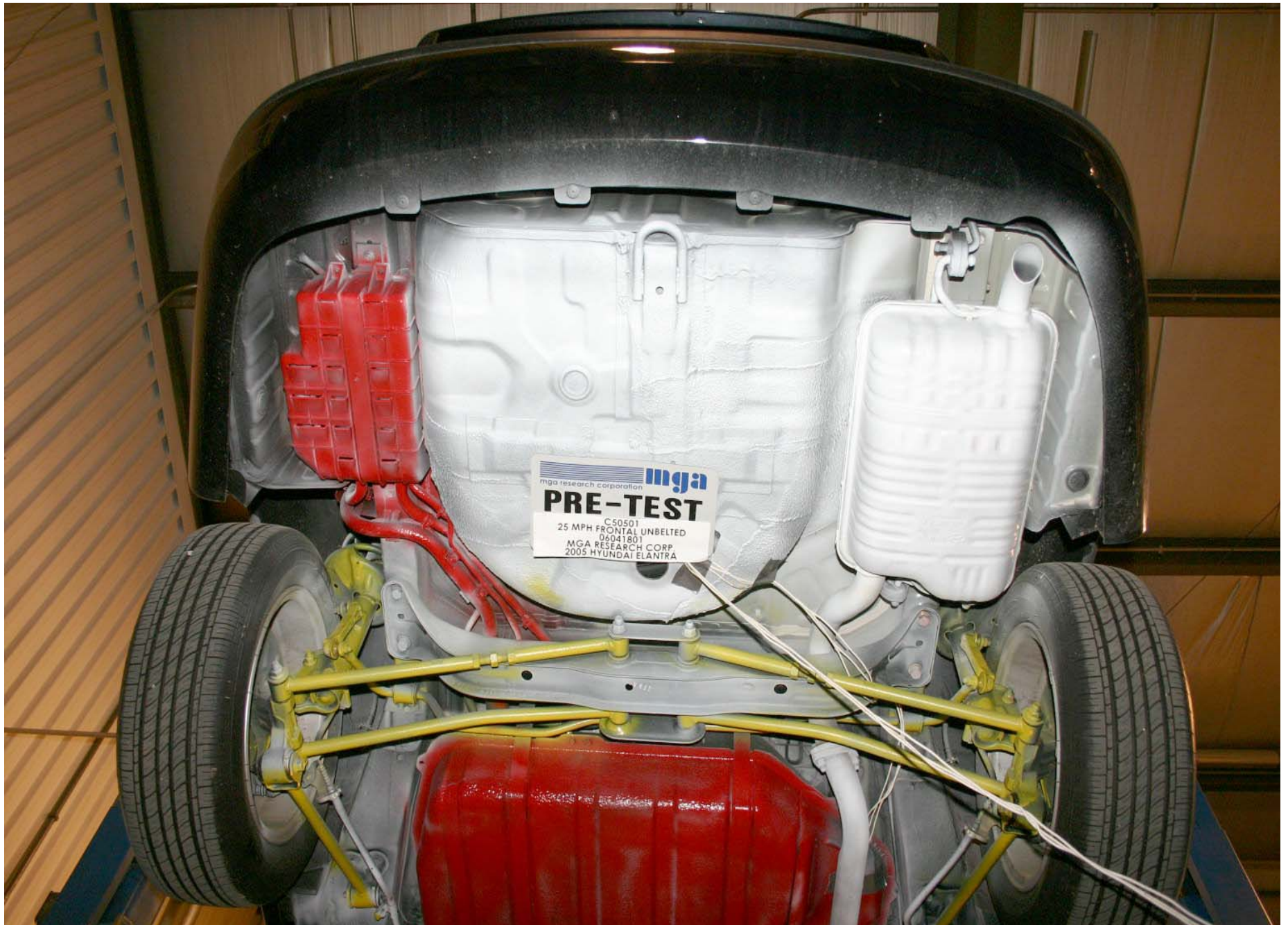
Pre-Test Mid Underbody View





Post-Test Mid Underbody View





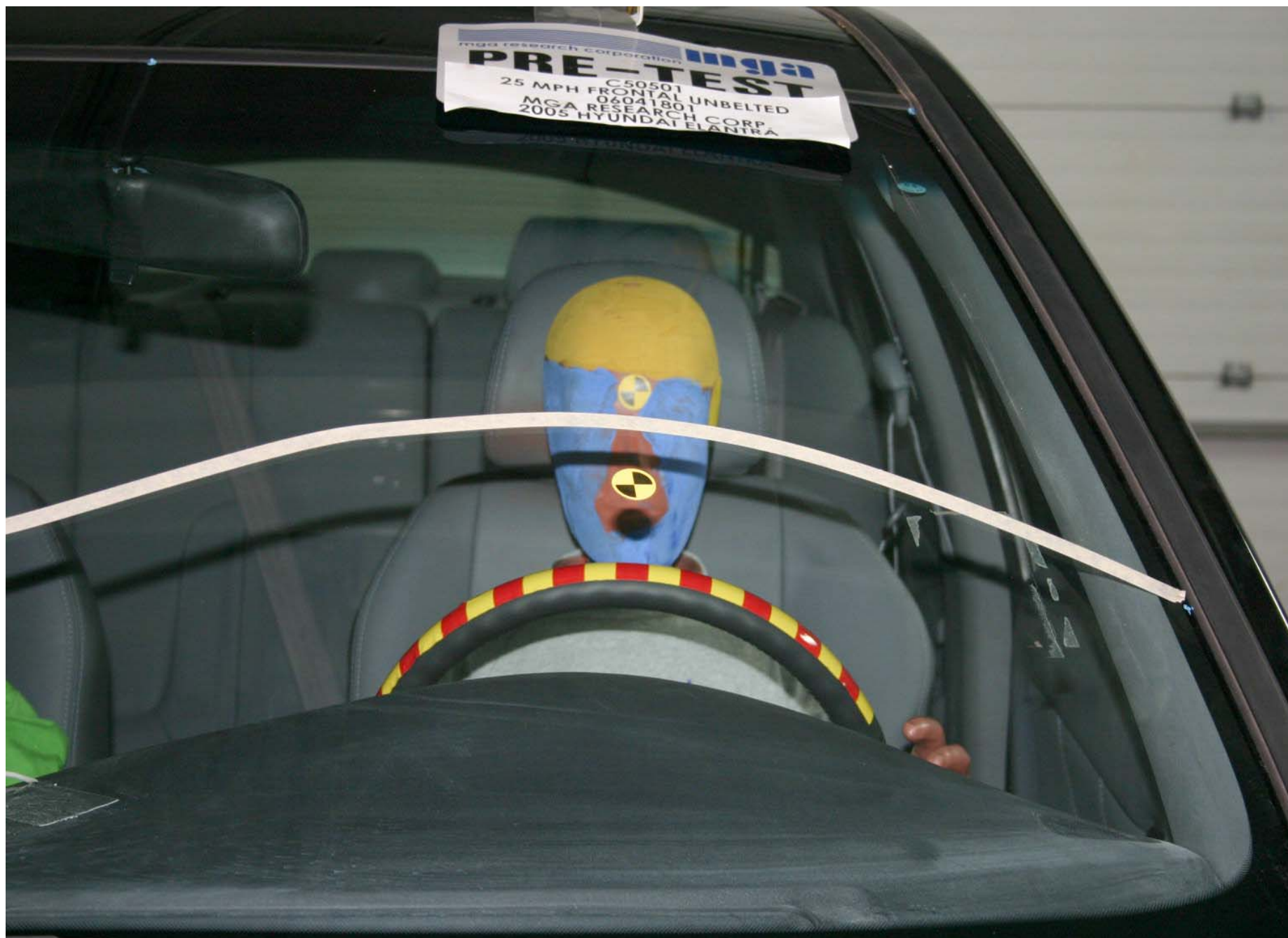
Pre-Test Rear Underbody View





Post-Test Rear Underbody View



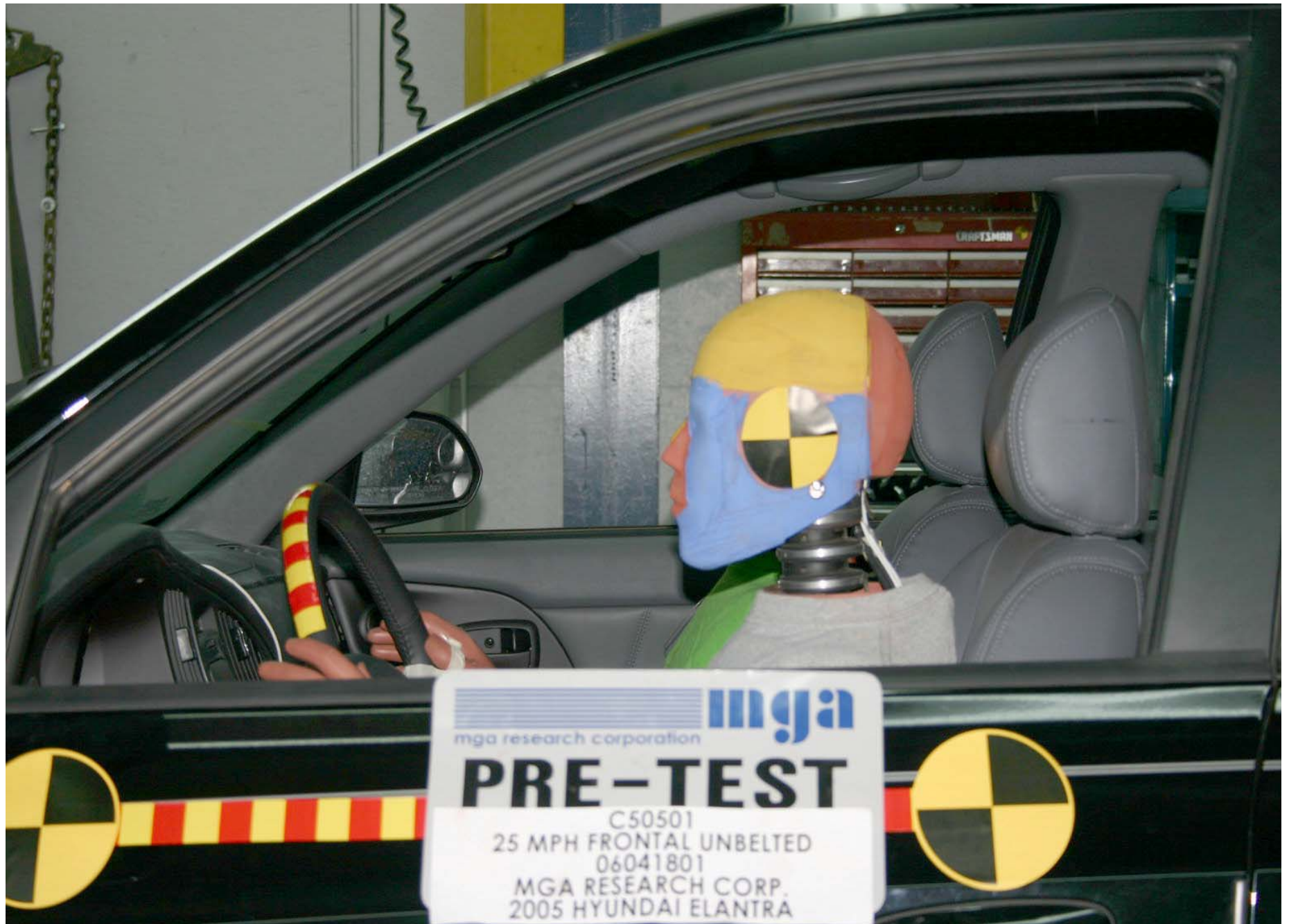


Pre-Test Driver Dummy Front View (head position)



Post-Test Driver Dummy Front View (head position)





Pre-Test Driver Dummy Position Left Side View





Post-Test Driver Dummy Position Left Side View





Pre-Test Driver Dummy Position Left Side View (Door Open)





Post-Test Driver Dummy Position Left Side View (Door Open)





Pre-Test Driver Dummy Seat Position



Post-Test Driver Dummy Seat Position





Pre-Test Driver Dummy Feet Position





Post-Test Driver Dummy Feet Position





Pre-Test Driver Side Knee Bolster View





Post-Test Driver Side Knee Bolster View





Post-Test Driver Dummy Head Contact (headrest)



Post-Test Driver Dummy Head Contact (b-pillar)





Post-Test Driver Dummy Knee Contact



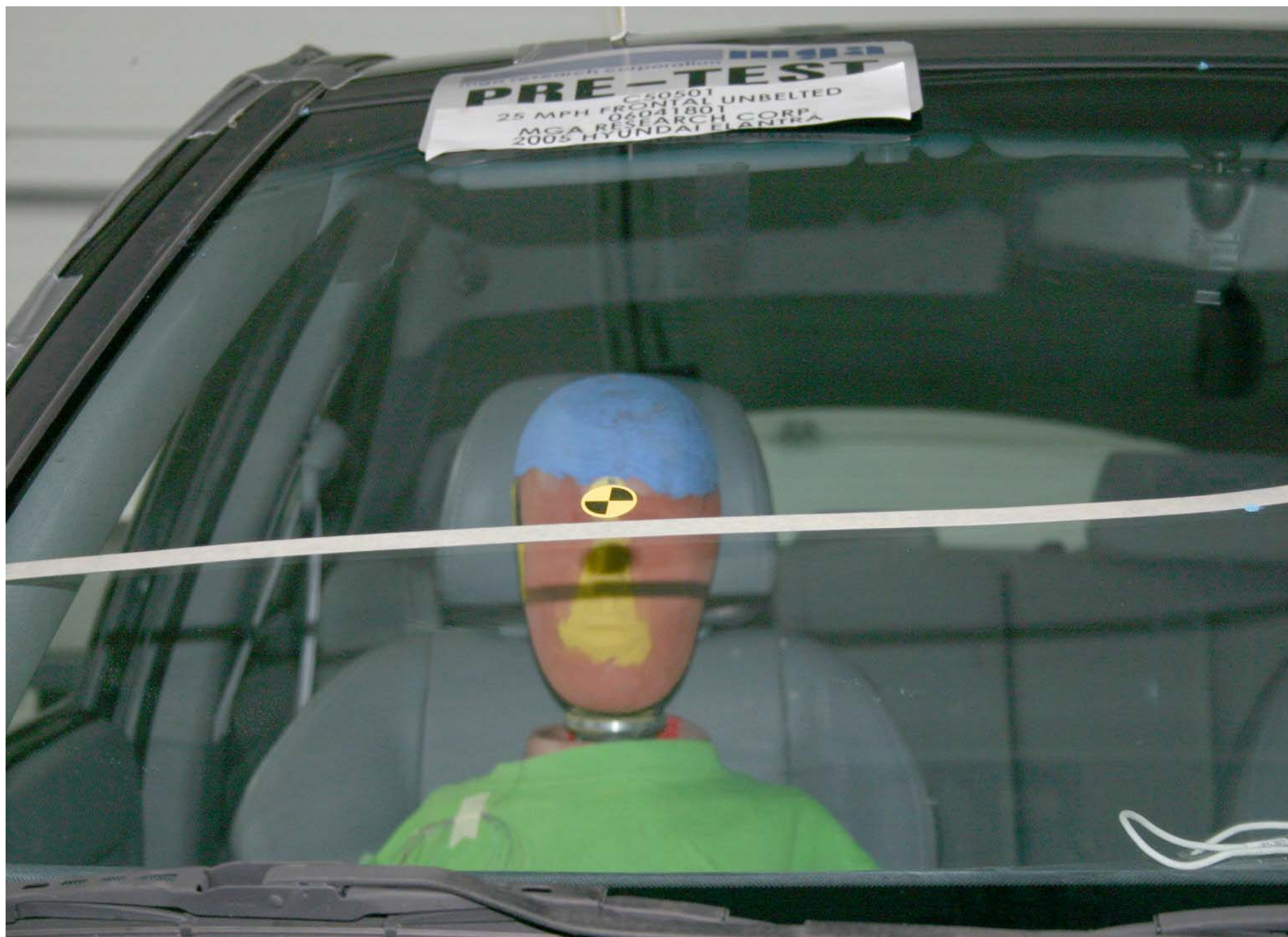


Post-Test Driver Dummy Airbag Contact



Post-Test Driver Side Visor





Pre-Test Passenger Dummy Front View (head position)





Post-Test Passenger Dummy Front View (head position)



Pre-Test Passenger Dummy Position Right Side View





Post-Test Passenger Dummy Position Right Side View





Pre-Test Passenger Dummy Position Right Side View (Door Open)





Post-Test Passenger Dummy Position Right Side View (Door Open)



Pre-Test Passenger Dummy Seat Position





Post-Test Passenger Dummy Seat Position



Pre-Test Passenger Dummy Feet Position





Post-Test Passenger Dummy Feet Position





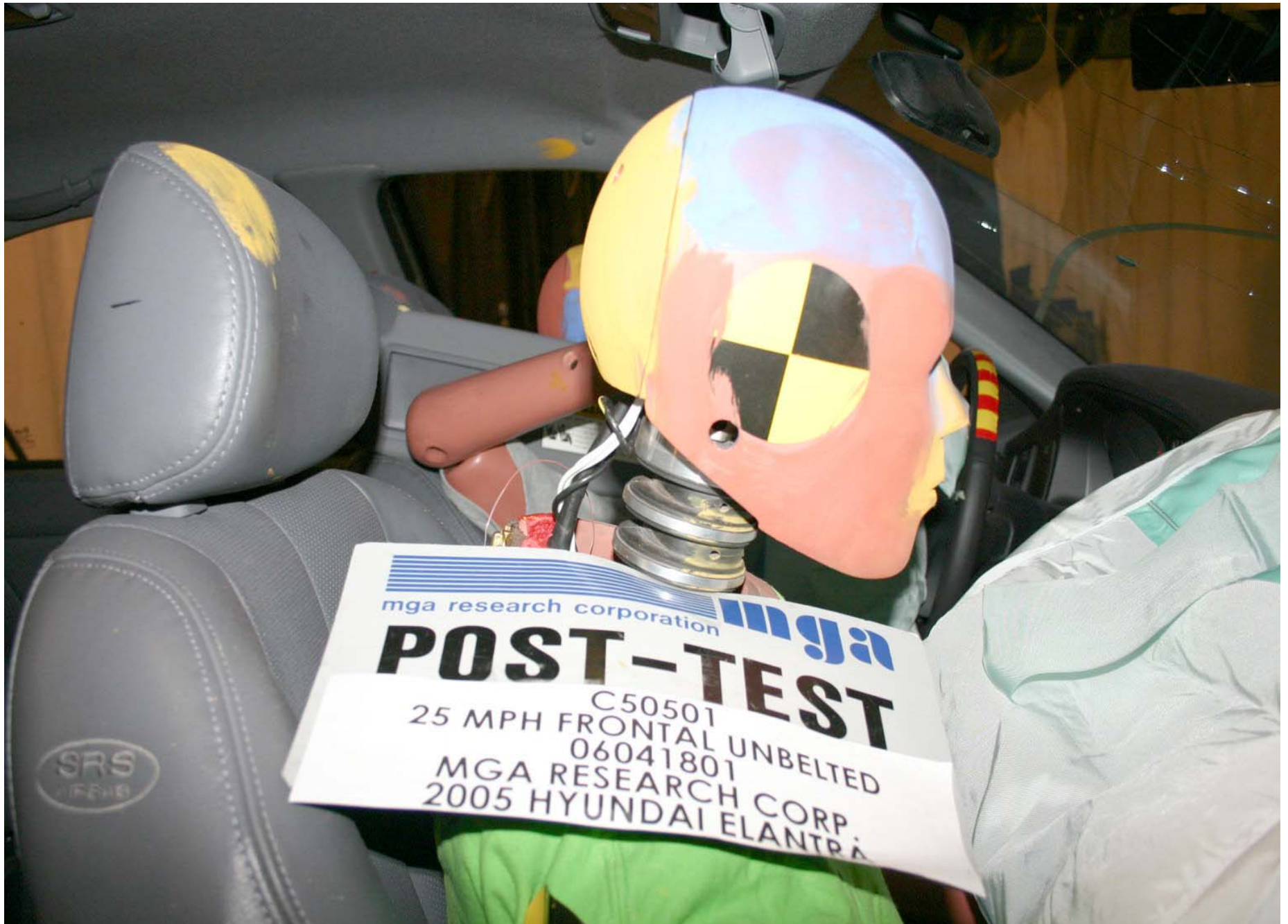
Pre-Test Passenger Side Knee Bolster View





Post-Test Passenger Side Knee Bolster View





Post-Test Passenger Dummy Head Contact (headrest)



Post-Test Passenger Dummy Knee Contact





Post-Test Passenger Dummy Airbag Contact





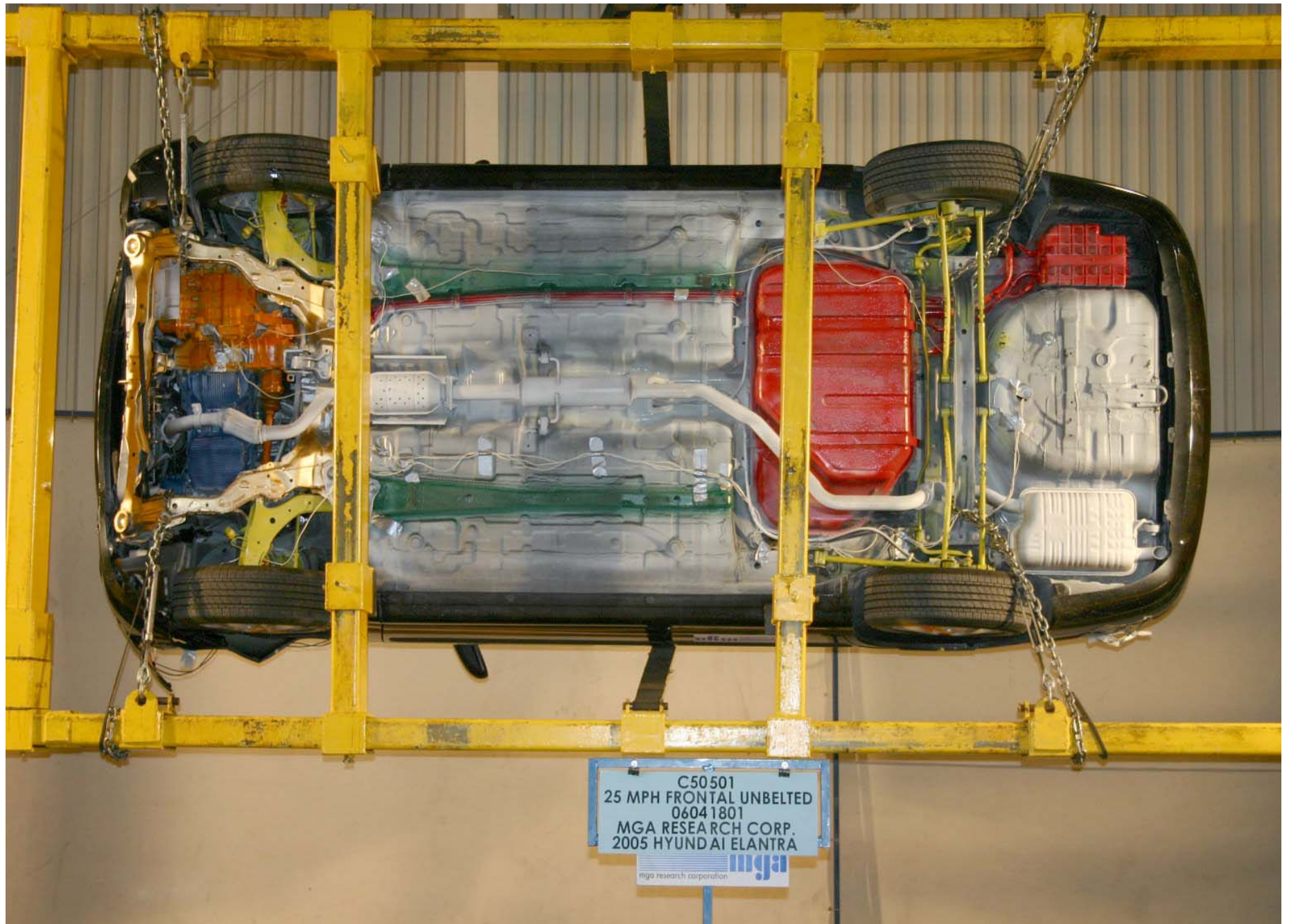
Rollover 90 Degrees



Rollover 180 Degrees



C-64



C50501  
25 MPH FRONTAL UNBELTED  
06041801  
MGA RESEARCH CORP.  
2005 HYUNDAI ELANTRA

mga research corporation



Rollover 270 Degrees





Rollover 360 Degrees



Vehicle Impact



### Temperature Plot





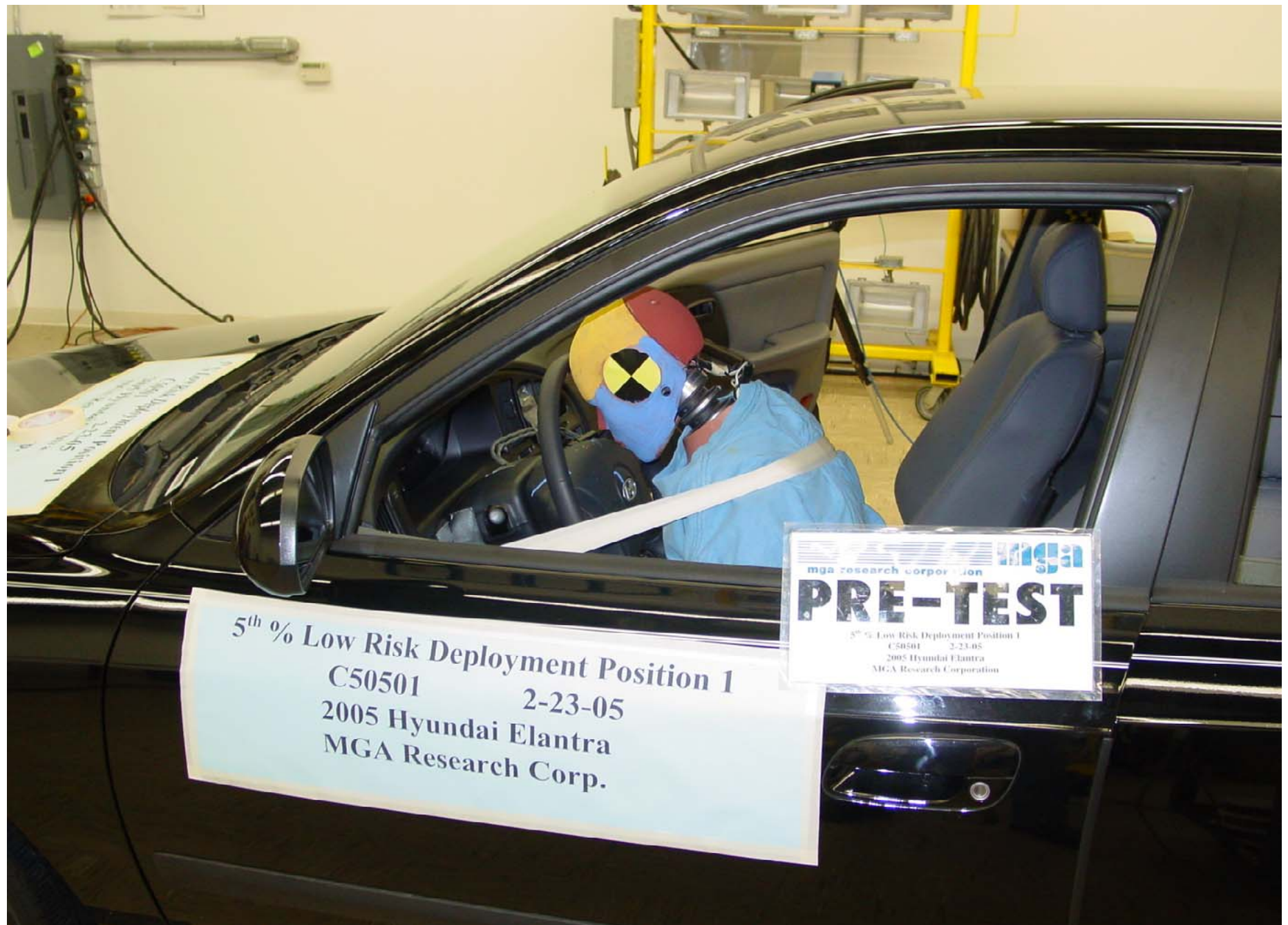


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**LOW RISK PHOTOGRAPHS**

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Pre-Test 5th Fem. P1 Driver Dummy Left Side View



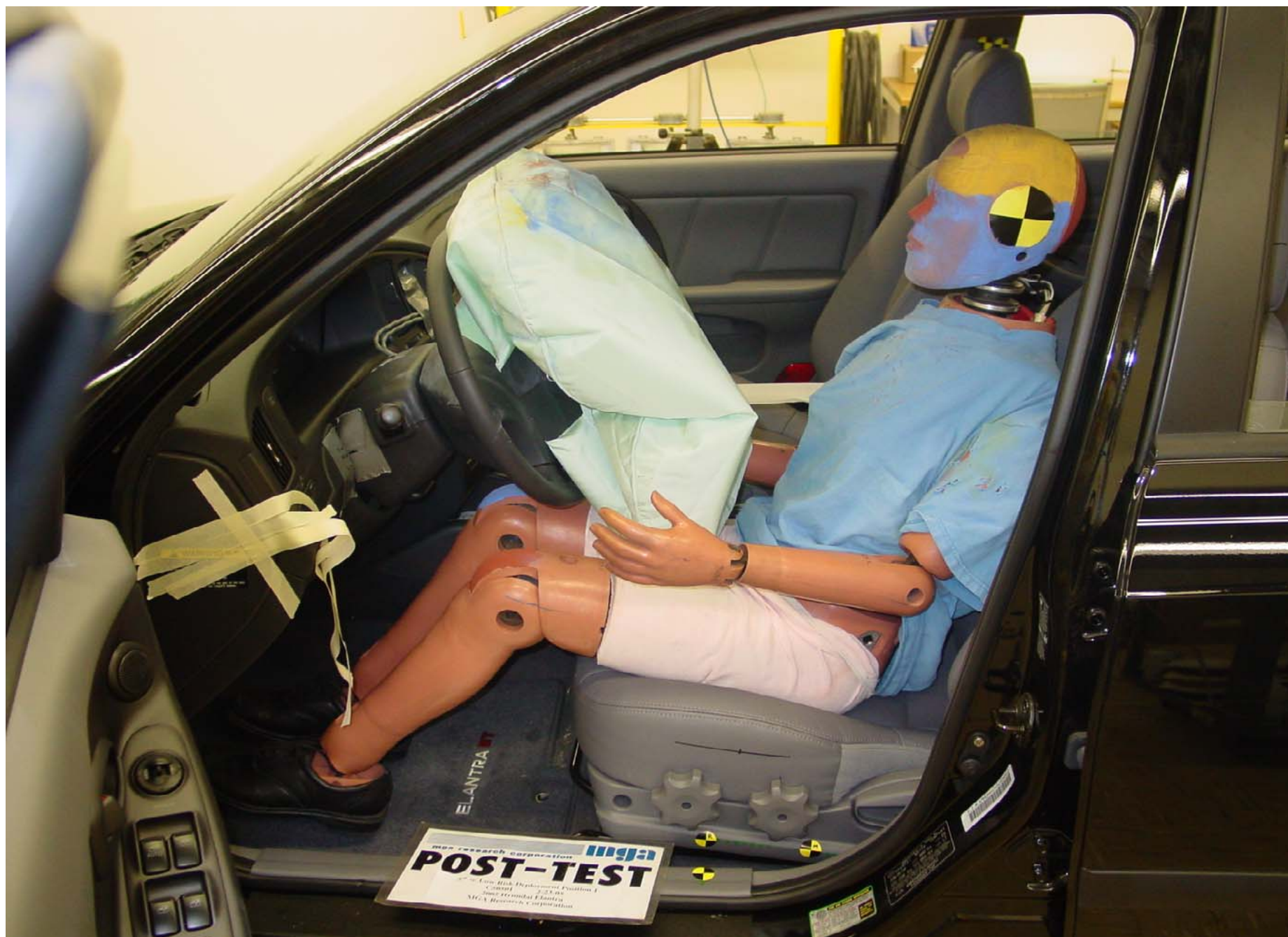
Post-Test 5th Fem. P1 Driver Dummy Left Side View





Pre-Test 5th Fem. P1 Driver Dummy Left Side View (Door Open)





Post-Test 5th Fem. P1 Driver Dummy Left Side View (Door Open)





Pre-Test 5th Fem. P1 Driver Dummy Right Side View (Door Open)





Post-Test 5th Fem. P1 Driver Dummy Right Side View (Door Open)



Pre-Test 5th Fem. P1 Driver Dummy Left Side Head Position View





Post-Test 5th Fem. P1 Drive Dummy Left Side Head Position View



Pre-Test 5th Fem. P1 Driver Dummy Right Side Head Position View



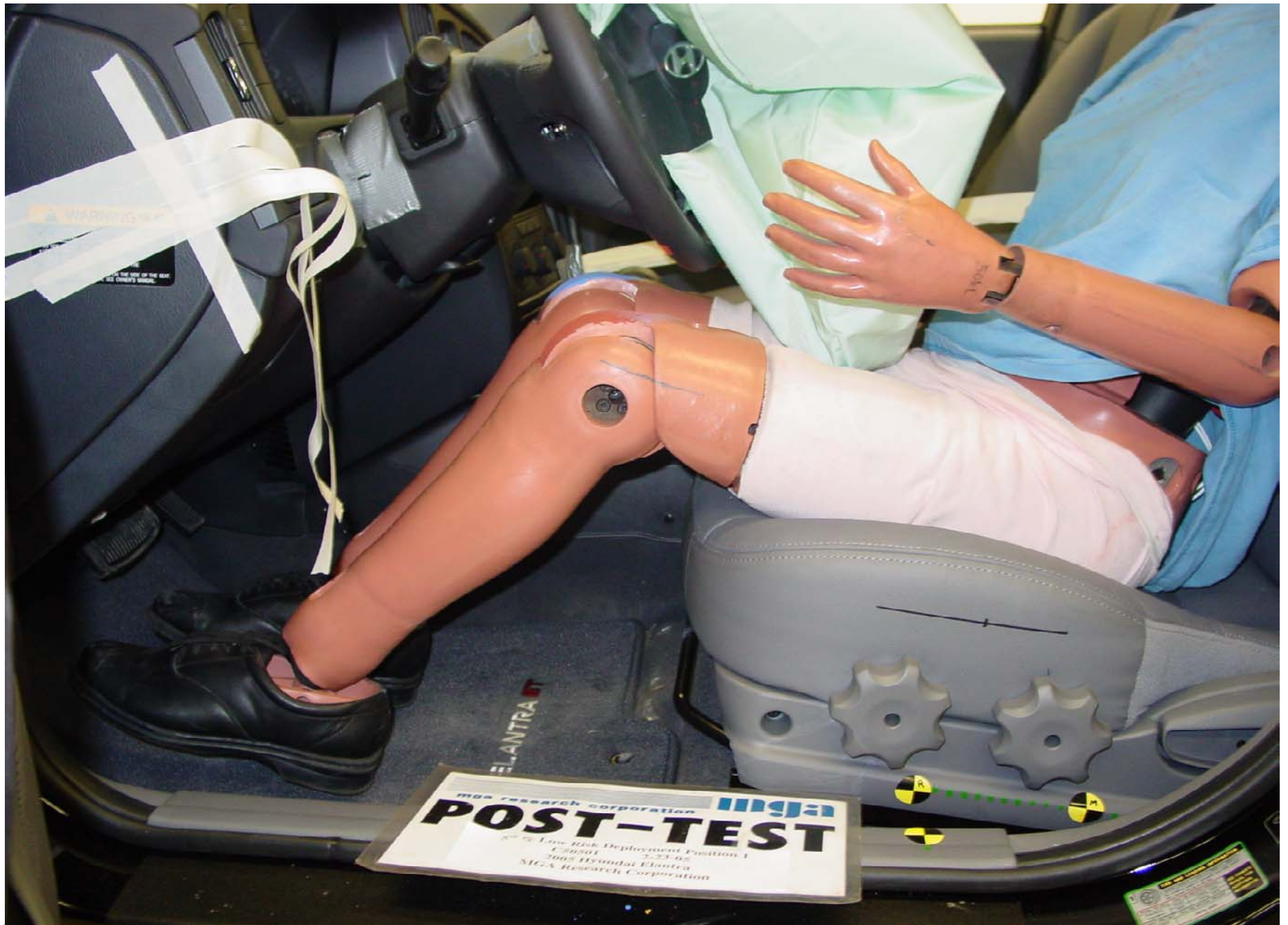


Post-Test 5th Fem. P1 Driver Dummy Right Side Head Position View



Pre-Test 5th Fem. P1 Driver Dummy Left Side Mid Position View





Post-Test 5th Fem. P1 Driver Dummy Left Side Mid Position View





Pre-Test 5th Fem. P1 Driver Dummy Right Side Mid Position View





Post-Test 5th Fem. P1 Driver Dummy Right Side Mid Position View





Pre-Test 5th Fem. P1 Driver Dummy Right Side Knee Position View



Post-Test 5th Fem. P1 Driver Dummy Airbag Left View





Post-Test 5th Fem. P1 Driver Dummy Airbag Right View





Post-Test 5th Fem. P2 Driver Dummy Left Side View





Pre-Test 5th Fem. P2 Driver Dummy Left Side View (Door Open)





Post-Test 5th Fem. P2 Driver Dummy Left Side View (Door Open)





Pre-Test 5th Fem. P2 Driver Dummy Right Side View (Door Open)





Post-Test 5th Fem. P2 Driver Dummy Right Side View (Door Open)





Pre-Test 5th Fem. P2 Driver Dummy Left Side Head Position View



Post-Test 5th Fem. P2 Drive Dummy Left Side Head Position View





Pre-Test 5th Fem. P2 Driver Dummy Right Side Head Position View

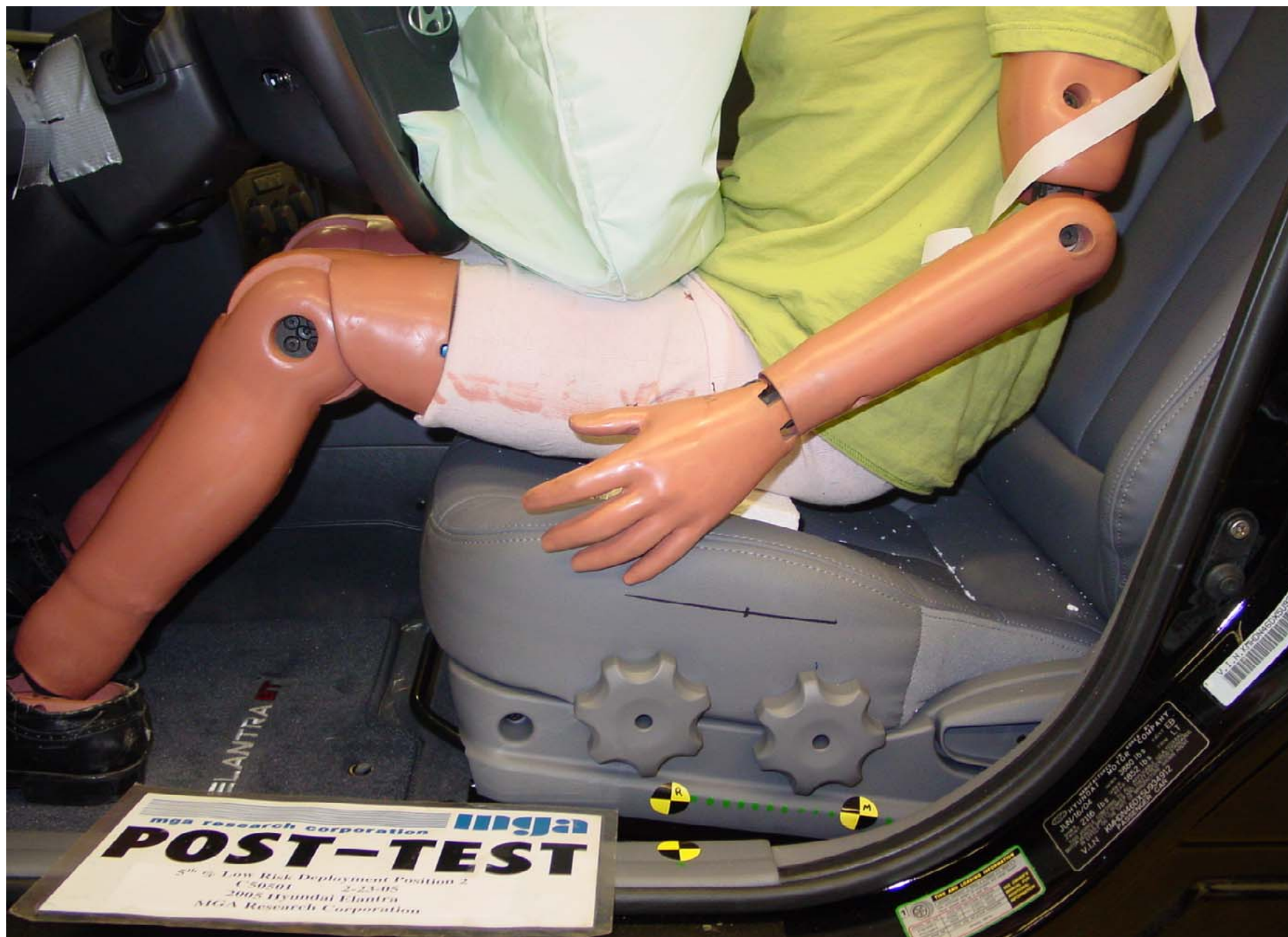


Post-Test 5th Fem. P2 Driver Dummy Right Side Head Position View





Pre-Test 5th Fem. P2 Driver Dummy Left Side Mid Position View



Post-Test 5th Fem. P2 Driver Dummy Left Side Mid Position View



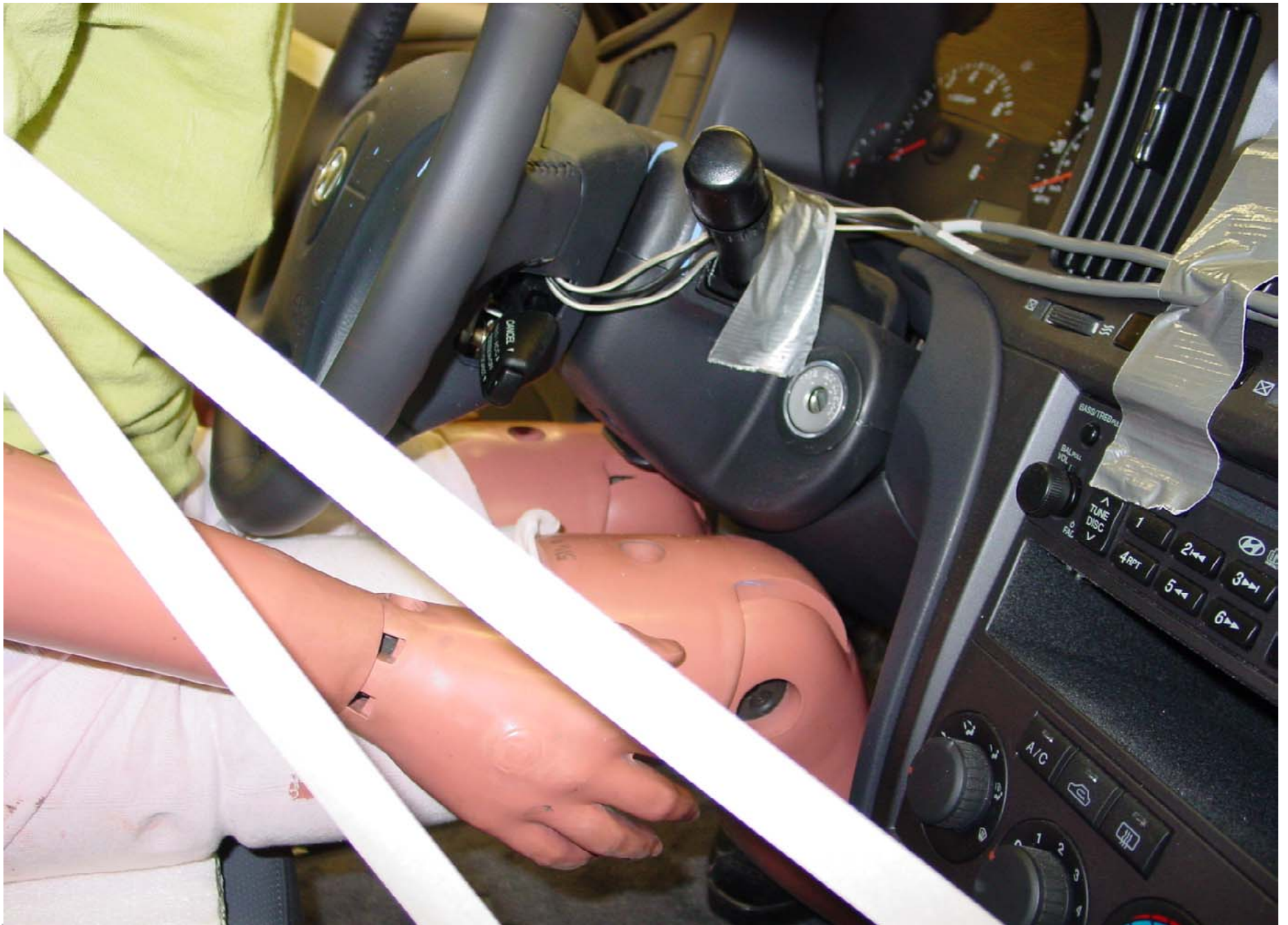


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Post-Test 5th Fem. P2 Driver Dummy Right Side Mid Position View





Pre-Test 5th Fem. P2 Driver Dummy Right Side Knee Position View



Post-Test 5th Fem. P2 Driver Dummy Airbag Left View



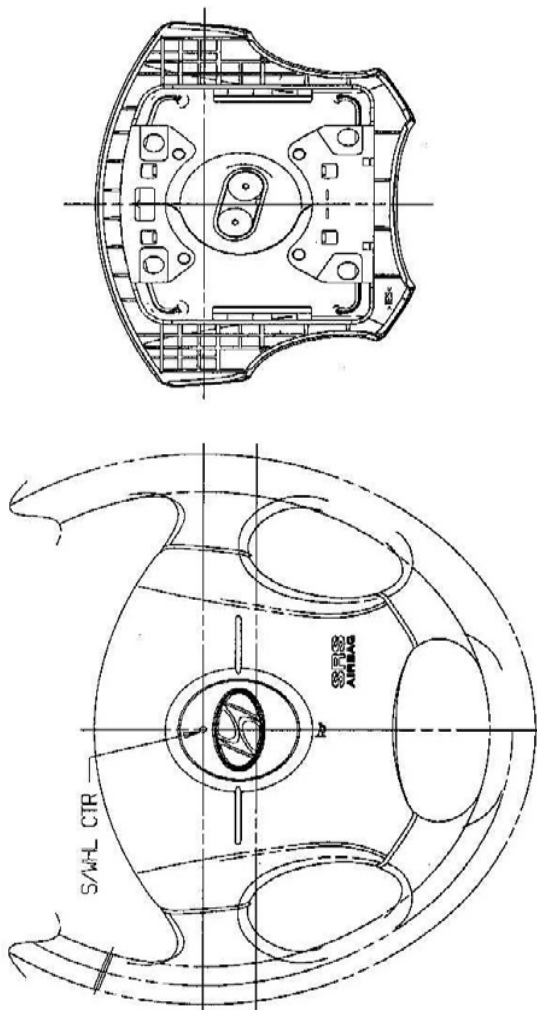


Post-Test 5th Fem. P2 Driver Dummy Airbag Right View



Post-Test 5th Fem. P2 Driver Dummy Head Contact (visor)





HYUNDAI MOTOR COMPANY		
CHECKER	TITLE	DRG NUMBE
DATE	WHEEL COMPLETE-STRG	

**APPENDIX E1**  
**SUPPRESSION PHOTOGRAPHS**

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DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

Newborn

Section A

Car Bed



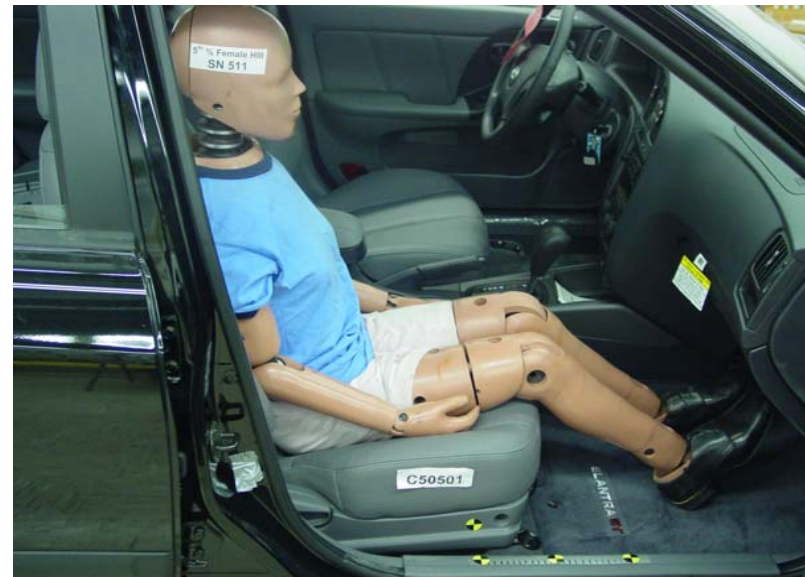
Cosco Dream Ride Car Bed With Belt,  
Forward Seat Track



Cosco Dream Ride Car Bed With Belt,  
Middle Seat Track



Cosco Dream Ride Car Bed With Belt,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section B

Rear Facing CRS



Britax Handle With Care 191 With Belt,  
Forward Seat Track, Handle Down



Britax Handle With Care 191 With Belt,  
Middle Seat Track, Handle Down



Britax Handle With Care 191 With Belt,  
Rearward Seat Track, Handle Down



Britax Handle With Care 191 Unbelted,  
Forward Seat Track, Handle Down



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section B

Rear Facing CRS



Britax Handle With Care 191 Unbelted,  
Middle Seat Track, Handle Down



Britax Handle With Care 191 Unbelted,  
Rearward Seat Track, Handle Down



Britax Handle With Care 191 Fwd Facing Unbelted,  
Forward Seat Track, Handle Down



Britax Handle With Care 191 Fwd Facing Unbelted,  
Middle Seat Track, Handle Down

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section B

Rear Facing CRS



Britax Handle With Care 191 Fwd Facing Unbelted,  
Rearward Seat Track, Handle Down



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section B

Rear Facing CRS



Evenflo First Choice 204 With Belt,  
Forward Seat Track, Handle Up



Evenflo First Choice 204 With Belt,  
Middle Seat Track, Handle Up



Evenflo First Choice 204 With Belt,  
Rearward Seat Track, Handle Up



Evenflo First Choice 204 Unbelted,  
Forward Seat Track, Handle Up



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section B

Rear Facing CRS



Evenflo First Choice 204 Unbelted,  
Middle Seat Track, Handle Up



Evenflo First Choice 204 Unbelted,  
Rearward Seat Track, Handle Up



Evenflo First Choice 204 Fwd Facing Unbelted,  
Forward Seat Track, Handle Up



Evenflo First Choice 204 Fwd Facing Unbelted,  
Middle Seat Track, Handle Up

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section B

Rear Facing CRS



Evenflo First Choice 204 Fwd Facing Unbelted,  
Rearward Seat Track, Handle Up



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section B

Rear Facing CRS



Graco Infant W/ Base With Belt,  
Forward Seat Track, Handle Up



Graco Infant W/ Base With Belt,  
Middle Seat Track, Handle Up



Graco Infant W/ Base With Belt,  
Rearward Seat Track, Handle Down



Graco Infant W/ Base Unbelted,  
Forward Seat Track, Handle Up



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section B

Rear Facing CRS



Graco Infant W/ Base Unbelted,  
Middle Seat Track, Handle Up



Graco Infant W/ Base Unbelted,  
Rearward Seat Track, Handle Down



Graco Infant W/ Base Fwd Facing Unbelted,  
Forward Seat Track, Handle Up



Graco Infant W/ Base Fwd Facing Unbelted,  
Middle Seat Track, Handle Up



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section B

Rear Facing CRS



Graco Infant W/ Base Fwd Facing Unbelted,  
Rearward Seat Track, Handle Up

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section B

Rear Facing CRS



Graco Infant W/O Base With Belt,  
Forward Seat Track, Handle Up



Graco Infant W/O Base With Belt,  
Middle Seat Track, Handle Down



Graco Infant W/O Base With Belt,  
Rearward Seat Track, Handle Down



Graco Infant W/O Base Unbelted,  
Forward Seat Track, Handle Up



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section B

Rear Facing CRS



Graco Infant W/O Base Unbelted,  
Middle Seat Track, Handle Down



Graco Infant W/O Base Unbelted,  
Rearward Seat Track, Handle Down



Graco Infant W/O Base Fwd Facing Unbelted,  
Forward Seat Track, Handle Up



Graco Infant W/O Base Fwd Facing Unbelted,  
Middle Seat Track, Handle Up

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section B

Rear Facing CRS



Graco Infant W/O Base Fwd Facing Unbelted,  
Rearward Seat Track, Handle Up



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section C

Forward Facing Convertible CRS



Britax Roundabout 161 Fwd Facing With Belt,  
Forward Seat Track



Britax Roundabout 161 Fwd Facing With Belt,  
Middle Seat Track



Britax Roundabout 161 Fwd Facing With Belt,  
Rearward Seat Track



Britax Roundabout 161 Fwd Facing Unbelted,  
Forward Seat Track

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section C

Forward Facing Convertible CRS



Britax Roundabout 161 Fwd Facing Unbelted,  
Middle Seat Track



Britax Roundabout 161 Fwd Facing Unbelted,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section C

Forward Facing Convertible CRS



Britax Roundabout 161 Rear Facing With Belt,  
Forward Seat Track



Britax Roundabout 161 Rear Facing With Belt,  
Middle Seat Track



Britax Roundabout 161 Rear Facing With Belt,  
Rearward Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Forward Seat Track

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section C

Forward Facing Convertible CRS



Britax Roundabout 161 Rear Facing Unbelted,  
Middle Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section C

Forward Facing Convertible CRS



Century Encore Fwd Facing With Belt,  
Forward Seat Track



Century Encore Fwd Facing With Belt,  
Middle Seat Track



Century Encore Fwd Facing With Belt,  
Rearward Seat Track



Century Encore Fwd Facing Unbelted,  
Forward Seat Track

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section C

Forward Facing Convertible CRS



Century Encore Fwd Facing Unbelted,  
Middle Seat Track



Century Encore Fwd Facing Unbelted,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section C

Forward Facing Convertible CRS



Century Encore Rear Facing With Belt,  
Forward Seat Track



Century Encore Rear Facing With Belt,  
Middle Seat Track



Century Encore Rear Facing With Belt,  
Rearward Seat Track



Century Encore Rear Facing Unbelted,  
Forward Seat Track

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section C

Forward Facing Convertible CRS



Century Encore Rear Facing Unbelted,  
Middle Seat Track



Century Encore Rear Facing Unbelted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section C

Forward Facing Convertible CRS



Evenflo Medallion 254 Fwd Facing With Belt,  
Forward Seat Track



Evenflo Medallion 254 Fwd Facing With Belt,  
Middle Seat Track



Evenflo Medallion 254 Fwd Facing With Belt,  
Rearward Seat Track



Evenflo Medallion 254 Fwd Facing Unbelted,  
Forward Seat Track

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section C

Forward Facing Convertible CRS



Evenflo Medallion 254 Fwd Facing Unbelted,  
Middle Seat Track



Evenflo Medallion 254 Fwd Facing Unbelted,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section C

Forward Facing Convertible CRS



Evenflo Medallion 254 Rear Facing With Belt,  
Forward Seat Track



Evenflo Medallion 254 Rear Facing With Belt,  
Middle Seat Track



Evenflo Medallion 254 Rear Facing With Belt,  
Rearward Seat Track



Evenflo Medallion 254 Rear Facing Unbelted,  
Forward Seat Track

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

12 Month

Section C

Forward Facing Convertible CRS



Evenflo Medallion 254 Rear Facing Unbelted,  
Middle Seat Track



Evenflo Medallion 254 Rear Facing Unbelted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

3 Year Old

Section C

Forward Facing Convertible CRS



3-Year-Old Fwd Facing Britax Roundabout Belted,  
Forward Seat Track



3-Year-Old Fwd Facing Britax Roundabout Belted,  
Middle Seat Track



3-Year-Old Fwd Facing Britax Roundabout Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

3 Year Old

Section C

Forward Facing Convertible CRS



3-Year-Old Fwd Facing Century Encore Belted,  
Forward Seat Track



3-Year-Old Fwd Facing Century Encore Belted,  
Middle Seat Track



3-Year-Old Fwd Facing Century Encore Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

3 Year Old

Section C

Forward Facing Convertible CRS



3-Year-Old Fwd Facing Evenflo Medallion Belted,  
Forward Seat Track



3-Year-Old Fwd Facing Evenflo Medallion Belted,  
Middle Seat Track



3-Year-Old Fwd Facing Evenflo Medallion Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

3 Year Old

Section D

Forward Facing Toddler

Belt Positioning Booster Seat



3-Year-Old Century Next Step Belted,  
Forward Seat Track



3-Year-Old Century Next Step Belted,  
Middle Seat Track



3-Year-Old Century Next Step Belted,  
Rearward Seat Track



3-Year-Old Century Next Step Cinched With Harness,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

3 Year Old

Section D

Forward Facing Toddler

Belt Positioning Booster Seat



3-Year-Old Century Next Step Cinched With Harness,  
Middle Seat Track



3-Year-Old Century Next Step Cinched With Harness,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

3 Year Old

Section D

Forward Facing Toddler

Belt Positioning Booster Seat



3-Year-Old Cosco High Back Booster Belted,  
Forward Seat Track



3-Year-Old Cosco High Back Booster Belted,  
Middle Seat Track



3-Year-Old Cosco High Back Booster Belted,  
Rearward Seat Track



3-Year-Old Cosco High Back Booster Cinched With Harness,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

3 Year Old

Section D

Forward Facing Toddler

Belt Positioning Booster Seat



3-Year-Old Cosco High Back Booster Cinched With Harness,  
Middle Seat Track



3-Year-Old Cosco High Back Booster Cinched With Harness,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

6 Year Old

Section D

Forward Facing Toddler

Belt Positioning Booster Seat



6-Year-Old Century Next Step Belted,  
Forward Seat Track



6-Year-Old Century Next Step Belted,  
Middle Seat Track



6-Year-Old Century Next Step Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

6 Year Old

Section D

Forward Facing Toddler

Belt Positioning Booster Seat



6-Year-Old Cosco High Back Booster Belted,  
Forward Seat Track



6-Year-Old Cosco High Back Booster Belted,  
Middle Seat Track



6-Year-Old Cosco High Back Booster Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)

6 Year Old

Section D

Forward Facing Toddler

Belt Positioning Booster Seat



6-Year-Old Evenflo Right Fit Belted,  
Forward Seat Track



6-Year-Old Evenflo Right Fit Belted,  
Middle Seat Track



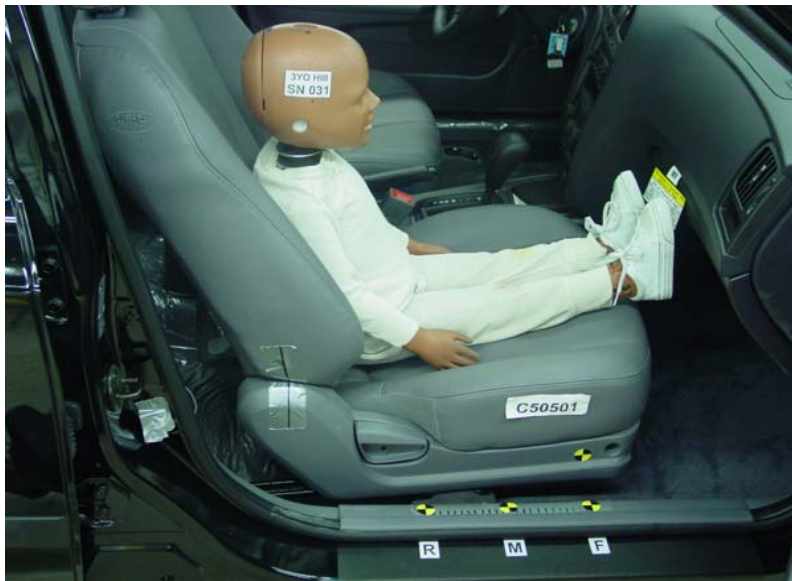
6-Year-Old Evenflo Right Fit Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)  
3 Year Old No CRS



3-Year-Old Unbelted, Forward Seat Track,  
Position 1



3-Year-Old Unbelted, Forward Seat Track,  
Position 2



3-Year-Old Unbelted, Forward Seat Track,  
Position 3



3-Year-Old Unbelted, Forward Seat Track,  
Position 4

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)  
3 Year Old No CRS



3-Year-Old Unbelted, Forward Seat Track,  
Position 5



3-Year-Old Unbelted, Forward Seat Track,  
Position 6



3-Year-Old Unbelted, Forward Seat Track,  
Position 7



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)  
3 Year Old No CRS



3-Year-Old Unbelted, Middle Seat Track,  
Position 1



3-Year-Old Unbelted, Middle Seat Track,  
Position 2



3-Year-Old Unbelted, Middle Seat Track,  
Position 3



3-Year-Old Unbelted, Middle Seat Track,  
Position 4

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)  
3 Year Old No CRS



3-Year-Old Unbelted, Middle Seat Track,  
Position 5



3-Year-Old Unbelted, Middle Seat Track,  
Position 6



3-Year-Old Unbelted, Middle Seat Track,  
Position 7



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)  
3 Year Old No CRS



3-Year-Old Unbelted, Rearward Seat Track,  
Position 1



3-Year-Old Unbelted, Rearward Seat Track,  
Position 2



3-Year-Old Unbelted, Rearward Seat Track,  
Position 3



3-Year-Old Unbelted, Rearward Seat Track,  
Position 4



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)  
3 Year Old No CRS



3-Year-Old Unbelted, Rearward Seat Track,  
Position 5



3-Year-Old Unbelted, Rearward Seat Track,  
Position 6



3-Year-Old Unbelted, Rearward Seat Track,  
Position 7



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)  
6 Year Old No CRS



6-Year-Old Unbelted, Forward Seat Track,  
Position 1



6-Year-Old Unbelted, Forward Seat Track,  
Position 2



6-Year-Old Unbelted, Forward Seat Track,  
Position 3

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)  
6 Year Old No CRS



6-Year-Old Unbelted, Middle Seat Track,  
Position 1



6-Year-Old Unbelted, Middle Seat Track,  
Position 2



6-Year-Old Unbelted, Middle Seat Track,  
Position 3



6-Year-Old Unbelted, Middle Seat Track,  
Position 4



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)  
6 Year Old No CRS



6-Year-Old Unbelted, Middle Seat Track,  
Position 4, View 2

DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)  
6 Year Old No CRS



6-Year-Old Unbelted, Rearward Seat Track,  
Position 1



6-Year-Old Unbelted, Rearward Seat Track,  
Position 2



6-Year-Old Unbelted, Rearward Seat Track,  
Position 3



6-Year-Old Unbelted, Rearward Seat Track,  
Position 4



DOT/NHTSA 208 Suppression Test – 2005 Elantra (C50501)  
6 Year Old No CRS



6-Year-Old Unbelted, Rearward Seat Track,  
Position 4, View 2



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track

**APPENDIX E2**  
**SUPPRESSION PHOTOGRAPHS**

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DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
Supplemental Suppression

Forward Facing Convertible CRS



Britax Roundabout 161 Fwd Facing With Belt,  
Forward Seat Track



Britax Roundabout 161 Fwd Facing With Belt,  
Middle Seat Track



Britax Roundabout 161 Fwd Facing With Belt,  
Rearward Seat Track



Britax Roundabout 161 Fwd Facing Unbelted,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
Supplemental Suppression

Forward Facing Convertible CRS



Britax Roundabout 161 Fwd Facing Unbelted,  
Middle Seat Track



Britax Roundabout 161 Fwd Facing Unbelted,  
Rearward Seat Track



Britax Roundabout 161 Rear Facing With Belt,  
Forward Seat Track



Britax Roundabout 161 Rear Facing With Belt,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
Supplemental Suppression

Forward Facing Convertible CRS



Britax Roundabout 161 Rear Facing With Belt,  
Rearward Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Forward Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Middle Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
Supplemental Suppression

Forward Facing Convertible CRS



Unbelted 5th Percentile Human Female Reactivation,  
Rearward Seat Track



3-Year-Old Century Next Step Belted,  
Forward Seat Track



3-Year-Old Century Next Step Belted, Middle Seat Track



3-Year-Old Century Next Step Belted, Rearward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
Supplemental Suppression

Forward Facing Convertible CRS



3-Year-Old Century Next Step Cinched With Harness,  
Forward Seat Track



3-Year-Old Century Next Step Cinched With Harness,  
Middle Seat Track



3-Year-Old Century Next Step Cinched With Harness,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
Supplemental Suppression

Forward Facing Convertible CRS



6-Year-Old Century Next Step Belted, Forward Seat Track



6-Year-Old Century Next Strap Belted, Middle Seat Track



6-Year-Old Century Next Step Belted,  
Rearward Seat Track



Unbelted 5th Percentile Human Female Reactivation,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
Supplemental Suppression

Forward Facing Convertible CRS



6-Year-Old Cosco High Back Booster Belted,  
Forward Seat Track



6-Year-Old Cosco High Back Booster Belted,  
Middle Seat Track



6-Year-Old Cosco High Back Booster Belted,  
Rearward Seat Track



Unbelted Representative Human Female Reactivation,  
Forward Seat Track

**APPENDIX E3**  
**SUPPRESSION PHOTOGRAPHS**

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DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)

Initial Suppression

Forward Facing Convertible CRS



Britax Roundabout 161 Fwd Facing With Belt,  
Forward Seat Track



Britax Roundabout 161 Fwd Facing With Belt,  
Middle Seat Track



Britax Roundabout 161 Fwd Facing With Belt,  
Rearward Seat Track



Britax Roundabout 161 Fwd Facing Unbelted,  
Forward Seat Track

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)

Initial Suppression

Forward Facing Convertible CRS



Britax Roundabout 161 Fwd Facing Unbelted,  
Middle Seat Track



Britax Roundabout 161 Fwd Facing Unbelted,  
Rearward Seat Track



Britax Roundabout 161 Rear Facing With Belt,  
Forward Seat Track



Britax Roundabout 161 Rear Facing With Belt,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)

Initial Suppression

Forward Facing Convertible CRS



Britax Roundabout 161 Rear Facing With Belt,  
Rearward Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Forward Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Middle Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Rearward Seat Track

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)

Initial Suppression

Forward Facing Convertible CRS



Unbelted Representative Human Female Reactivation,  
Rearward Seat Track



3-Year-Old Century Next Step Belted,  
Forward Seat Track



3-Year-Old Century Next Step Belted, Middle Seat Track



3-Year-Old Century Next Step Belted, Rearward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)

Initial Suppression

Forward Facing Convertible CRS



3-Year-Old Century Next Step Cinched With Harness,  
Forward Seat Track



3-Year-Old Century Next Step Cinched With Harness,  
Middle Seat Track



3-Year-Old Century Next Step Cinched With Harness,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)

Initial Suppression

Forward Facing Convertible CRS



6-Year-Old Century Next Step Belted, Forward Seat Track



6-Year-Old Century Next Strap Belted, Middle Seat Track



6-Year-Old Century Next Step Belted,  
Rearward Seat Track



Unbelted Representative Human Female Reactivation,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)

Initial Suppression

Forward Facing Convertible CRS



6-Year-Old Cosco High Back Booster Belted,  
Forward Seat Track



6-Year-Old Cosco High Back Booster Belted,  
Middle Seat Track



6-Year-Old Cosco High Back Booster Belted,  
Rearward Seat Track



Unbelted Representative Human Female Reactivation,  
Forward Seat Track

**APPENDIX E4**  
**SUPPRESSION PHOTOGRAPHS**



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Cosco Dream Ride Car Bed With Belt, Forward Seat Track



Cosco Dream Ride Car Bed With Belt, Middle Seat Track



Cosco Dream Ride Car Bed With Belt,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track





Britax Handle With Care 191 With Belt, Forward Seat Track,  
Handle Down



Britax Handle With Care 191 With Belt, Middle Seat Track,  
Handle Down



Britax Handle With Care 191 With Belt, Rearward Seat Track,  
Handle Down



Britax Handle With Care 191 Unbelted, Forward Seat Track,  
Handle Down





Britax Handle With Care 191 Unbelted, Middle Seat Track,  
Handle Down



Britax Handle With Care 191 Unbelted, Rearward Seat Track,  
Handle Down



Britax Handle With Care 191 Fwd Facing Unbelted,  
Forward Seat Track, Handle Down



Britax Handle With Care 191 Fwd Facing Unbelted,  
Middle Seat Track, Handle Down





Britax Handle With Care 191 Fwd Facing Unbelted,  
Rearward Seat Track, Handle Down



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



Evenflo First Choice 204 With Belt, Forward Seat Track,  
Handle Up



Evenflo First Choice 204 With Belt, Middle Seat Track,  
Handle Up



Evenflo First Choice 204 With Belt, Rearward Seat Track,  
Handle Down



Evenflo First Choice 204 Unbelted, Forward Seat Track,  
Handle Up





Evenflo First Choice 204 Unbelted, Middle Seat Track,  
Handle Up



Evenflo First Choice 204 Unbelted, Rearward Seat Track,  
Handle Down



Evenflo First Choice 204 Fwd Facing Unbelted,  
Forward Seat Track, Handle Up



Evenflo First Choice 204 Fwd Facing Unbelted,  
Middle Seat Track, Handle Up



Evenflo First Choice 204 Fwd Facing Unbelted,  
Rearward Seat Track, Handle Up



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section B

Post Recall Suppression  
Rear Facing CRS



Graco Infant W/ Base With Belt, Forward Seat Track, Handle Up



Graco Infant W/ Base With Belt, Middle Seat Track, Handle Up



Graco Infant W/ Base With Belt, Rearward Seat Track,  
Handle Down



Graco Infant W/ Base Unbelted, Forward Seat Track,  
Handle Up

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section B

Post Recall Suppression  
Rear Facing CRS



Graco Infant W/ Base Unbelted, Middle Seat Track,  
Handle Up



Graco Infant W/ Base Unbelted, Rearward Seat Track,  
Handle Down



Graco Infant W/ Base Fwd Facing Unbelted, Forward Seat Track,  
Handle Up



Graco Infant W/ Base Fwd Facing Unbelted, Middle Seat Track,  
Handle Up



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section B

Post Recall Suppression  
Rear Facing CRS



Graco Infant W/ Base Fwd Facing Unbelted,  
Rearward Seat Track, Handle Up



Graco Infant W/O Base With Belt,  
Forward Seat Track, Handle Up



Graco Infant W/O Base With Belt, Middle Seat Track,  
Handle Up



Graco Infant W/O Base With Belt, Rearward Seat Track,  
Handle Down



Graco Infant W/O Base Unbelted, Forward Seat Track,  
Handle Up



Graco Infant W/O Base Unbelted, Middle Seat Track,  
Handle Up



Graco Infant W/O Base Unbelted,  
Rearward Seat Track, Handle Down



Graco Infant W/O Base Fwd Facing Unbelted,  
Forward Seat Track, Handle Up





Graco Infant W/O Base Fwd Facing Unbelted,  
Middle Seat Track, Handle Up



Graco Infant W/O Base Fwd Facing Unbelted,  
Rearward Seat Track, Handle Up



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track



Britax Roundabout 161 Fwd Facing With Belt,  
Forward Seat Track



Britax Roundabout 161 Fwd Facing With Belt,  
Middle Seat Track



Britax Roundabout 161 Fwd Facing With Belt,  
Rearward Seat Track



Britax Roundabout 161 Fwd Facing Unbelted,  
Forward Seat Track





Britax Roundabout 161 Fwd Facing Unbelted,  
Middle Seat Track



Britax Roundabout 161 Fwd Facing Unbelted,  
Rearward Seat Track



Britax Roundabout 161 Rear Facing With Belt,  
Forward Seat Track



Britax Roundabout 161 Rear Facing With Belt,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month  
Section C

Post Recall Suppression  
Forward Facing Convertible CRS



Britax Roundabout 161 Rear Facing With Belt,  
Rearward Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Forward Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Middle Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Rearward Seat Track





Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post Recall Suppression  
Forward Facing Convertible CRS



Century Encore Fwd Facing With Belt, Forward Seat Track



Century Encore Fwd Facing With Belt, Middle Seat Track



Century Encore Fwd Facing With Belt, Rearward Seat Track



Century Encore Fwd Facing Unbelted, Forward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post Recall Suppression  
Forward Facing Convertible CRS



Century Encore Fwd Facing Unbelted, Middle Seat Track



Century Encore Fwd Facing Unbelted, Rearward Seat Track



Century Encore Rear Facing With Belt, Forward Seat Track



Century Encore Rear Facing With Belt, Middle Seat Track





Century Encore Rear Facing With Belt, Rearward Seat Track



Century Encore Rear Facing Unbelted, Forward Seat Track



Century Encore Rear Facing Unbelted, Middle Seat Track



Century Encore Rear Facing Unbelted, Rearward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post Recall Suppression  
Forward Facing Convertible CRS



Unbelted 5th Percentile Female Reactivation, Middle Seat Track

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post Recall Suppression  
Forward Facing Convertible CRS



Evenflo Medallion 254 Fwd Facing With Belt, Forward Seat Track



Evenflo Medallion 254 Fwd Facing With Belt, Middle Seat Track



Evenflo Medallion 254 Fwd Facing With Belt,  
Rearward Seat Track



Evenflo Medallion 254 Fwd Facing Unbelted,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post Recall Suppression  
Forward Facing Convertible CRS



Evenflo Medallion 254 Fwd Facing Unbelted,  
Middle Seat Track



Evenflo Medallion 254 Fwd Facing Unbelted,  
Rearward Seat Track



Evenflo Medallion 254 Rear Facing With Belt,  
Forward Seat Track



Evenflo Medallion 254 Rear Facing With Belt,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post Recall Suppression  
Forward Facing Convertible CRS



Evenflo Medallion 254 Rear Facing With Belt,  
Rearward Seat Track



Evenflo Medallion 254 Rear Facing Unbelted,  
Forward Seat Track



Evenflo Medallion 254 Rear Facing Unbelted,  
Middle Seat Track



Evenflo Medallion 254 Rear Facing Unbelted,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post Recall Suppression  
Forward Facing Convertible CRS



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track



3-Year-Old Fwd Facing Britax Roundabout Belted,  
Forward Seat Track



3-Year-Old Fwd Facing Britax Roundabout Belted,  
Middle Seat Track



3-Year-Old Fwd Facing Britax Roundabout Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track





3-Year-Old Fwd Facing Century Encore Belted,  
Forward Seat Track



3-Year-Old Fwd Facing Century Encore Belted,  
Middle Seat Track



3-Year-Old Fwd Facing Century Encore Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track





3-Year-Old Fwd Facing Evenflo Medallion Belted,  
Forward Seat Track



3-Year-Old Fwd Facing Evenflo Medallion Belted,  
Middle Seat Track



3-Year-Old Fwd Facing Evenflo Medallion Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
3 Year Old                      Section D                      Forward Facing Toddler

Post Recall Suppression  
Belt Positioning Booster



3-Year-Old Century Next Step Belted, Forward Seat Track



3-Year-Old Century Next Step Belted, Middle Seat Track



3-Year-Old Century Next Step Belted,  
Rearward Seat Track



3-Year-Old Century Next Step Cinched With Harness,  
Forward Seat Track

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
3 Year Old                      Section D                      Forward Facing Toddler

Post Recall Suppression  
Belt Positioning Booster



3-Year-Old Century Next Step Cinched With Harness,  
Middle Seat Track



3-Year-Old Century Next Step Cinched With Harness,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track





3-Year-Old Cosco High Back Booster Belted,  
 Forward Seat Track



3-Year-Old Cosco High Back Booster Belted,  
 Middle Seat Track



3-Year-Old Cosco High Back Booster Belted,  
 Rearward Seat Track



3-Year-Old Cosco High Back Booster Cinched With Harness,  
 Forward Seat Track



3-Year-Old Cosco High Back Booster Cinched With Harness,  
Middle Seat Track



3-Year-Old Cosco High Back Booster Cinched With Harness,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old                      Section D                      Forward Facing Toddler

Post Recall Suppression  
Belt Positioning Booster



6-Year-Old Century Next Step Belted, Forward Seat Track



6-Year-Old Century Next Strap Belted, Middle Seat Track



6-Year-Old Century Next Step Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old                      Section D                      Forward Facing Toddler

Post Recall Suppression  
Belt Positioning Booster



6-Year-Old Cosco High Back Booster Belted,  
Forward Seat Track



6-Year-Old Cosco High Back Booster Belted,  
Middle Seat Track



6-Year-Old Cosco High Back Booster Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track





6-Year-Old Evenflo Right Fit Belted, Forward Seat Track



6-Year-Old Evenflo Right Fit Belted, Middle Seat Track



6-Year-Old Evenflo Right Fit Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
3 Year Old  
No CRS

Post Recall Suppression



3-Year-Old Unbelted, Forward Seat Track, Position 1



3-Year-Old Unbelted, Forward Seat Track, Position 2



3-Year-Old Unbelted, Forward Seat Track, Position 3



3-Year-Old Unbelted, Forward Seat Track, Position 4



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
3 Year Old  
No CRS

Post Recall Suppression



3-Year-Old Unbelted, Forward Seat Track, Position 5



3-Year-Old Unbelted, Forward Seat Track, Position 6



3-Year-Old Unbelted, Forward Seat Track, Position 7



3-Year-Old Unbelted, Middle Seat Track, Position 1



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
3 Year Old  
No CRS

Post Recall Suppression



3-Year-Old Unbelted, Middle Seat Track, Position 2



3-Year-Old Unbelted, Middle Seat Track, Position 3



3-Year-Old Unbelted, Middle Seat Track, Position 4



3-Year-Old Unbelted, Middle Seat Track, Position 5

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
3 Year Old  
No CRS

Post Recall Suppression



3-Year-Old Unbelted, Middle Seat Track, Position 6



3-Year-Old Unbelted, Middle Seat Track, Position 7



3-Year-Old Unbelted, Rearward Seat Track, Position 1



3-Year-Old Unbelted, Rearward Seat Track, Position 2



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
3 Year Old  
No CRS

Post Recall Suppression



3-Year-Old Unbelted, Rearward Seat Track, Position 3



3-Year-Old Unbelted, Rearward Seat Track, Position 4



3-Year-Old Unbelted, Rearward Seat Track, Position 5



3-Year-Old Unbelted, Rearward Seat Track, Position 6

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
3 Year Old  
No CRS

Post Recall Suppression



3-Year-Old Unbelted, Rearward Seat Track, Position 7



Unbelted 5th Percentile Female Reactivation, Rear Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6Year Old No CRS

Post Recall Suppression



6-Year-Old Unbelted, Forward Seat Track, Position 1



6-Year-Old Unbelted, Forward Seat Track, Position 2



6-Year-Old Unbelted, Forward Seat Track, Position 3



6-Year-Old Unbelted, Forward Seat Track, Position 4



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6Year Old  
No CRS

Post Recall Suppression



6-Year-Old Unbelted, Forward Seat Track, Position 4, View 2



6-Year-Old Unbelted, Middle Seat Track, Position 1



6-Year-Old Unbelted, Middle Seat Track, Position 2



6-Year-Old Unbelted, Middle Seat Track, Position 3



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6Year Old No CRS

Post Recall Suppression



6-Year-Old Unbelted, Middle Seat Track, Position 4



6-Year-Old Unbelted, Middle Seat Track, Position 4, View 2



6-Year-Old Unbelted, Rearward Seat Track, Position 1



6-Year-Old Unbelted, Rearward Seat Track, Position 2



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6Year Old No CRS

Post Recall Suppression



6-Year-Old Unbelted, Rearward Seat Track, Position 3



6-Year-Old Unbelted, Rearward Seat Track, Position 4



6-Year-Old Unbelted, Rearward Seat Track,  
Position 4, View 2



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
5<sup>th</sup>% Human Female Subjects

Post Recall Fix Suppression



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track, Human Subject 013



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track, Human Subject 013



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track, Human Subject 013



Unbelted Representative Female Reactivation,  
Forward Seat Track, Human Subject 030

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
5<sup>th</sup>% Human Female Subjects

Post Recall Fix Suppression



Unbelted Representative Female Reactivation,  
Rearward Seat Track, Human Subject 030



Unbelted Representative Female Reactivation,  
Forward Seat Track, Human Subject 031



Unbelted Representative Female Reactivation,  
Rearward Seat Track, Human Subject 031

**APPENDIX E5**  
**SUPPRESSION PHOTOGRAPHS**



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Cosco Dream Ride Car Bed With Belt, Forward Seat Track



Cosco Dream Ride Car Bed With Belt, Middle Seat Track



Cosco Dream Ride Car Bed With Belt,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section B

Post TSB Suppression  
Rear Facing CRS



Britax Handle With Care 191 With Belt, Forward Seat Track,  
Handle Down



Britax Handle With Care 191 With Belt, Middle Seat Track,  
Handle Down



Britax Handle With Care 191 With Belt, Rearward Seat Track,  
Handle Down



Britax Handle With Care 191 Unbelted, Forward Seat Track,  
Handle Down

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section B

Post TSB Suppression  
Rear Facing CRS



Britax Handle With Care 191 Unbelted, Middle Seat Track,  
Handle Down



Britax Handle With Care 191 Unbelted, Rearward Seat Track,  
Handle Down



Britax Handle With Care 191 Fwd Facing Unbelted,  
Forward Seat Track, Handle Down



Britax Handle With Care 191 Fwd Facing Unbelted,  
Middle Seat Track, Handle Down





Britax Handle With Care 191 Fwd Facing Unbelted,  
Rearward Seat Track, Handle Down



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section B

Post TSB Suppression  
Rear Facing CRS



Evenflo First Choice 204 With Belt, Forward Seat Track,  
Handle Up



Evenflo First Choice 204 With Belt, Middle Seat Track,  
Handle Up



Evenflo First Choice 204 With Belt, Rearward Seat Track,  
Handle Up



Evenflo First Choice 204 Unbelted, Forward Seat Track,  
Handle Up

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section B

Post TSB Suppression  
Rear Facing CRS



Evenflo First Choice 204 Unbelted, Middle Seat Track,  
Handle Up



Evenflo First Choice 204 Unbelted, Rearward Seat Track,  
Handle Up



Evenflo First Choice 204 Fwd Facing Unbelted,  
Forward Seat Track, Handle Up



Evenflo First Choice 204 Fwd Facing Unbelted,  
Middle Seat Track, Handle Up





Evenflo First Choice 204 Fwd Facing Unbelted,  
Rearward Seat Track, Handle Up



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section B

Post TSB Suppression  
Rear Facing CRS



Graco Infant W/ Base With Belt, Forward Seat Track, Handle Up

Graco Infant W/ Base With Belt, Middle Seat Track, Handle Up



Graco Infant W/ Base With Belt, Rearward Seat Track, Handle Up



Graco Infant W/ Base Unbelted, Forward Seat Track, Handle Up

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section B

Post TSB Suppression  
Rear Facing CRS



Graco Infant W/ Base Unbelted, Middle Seat Track, Handle Up



Graco Infant W/ Base Unbelted, Rearward Seat Track, Handle Up



Graco Infant W/ Base Fwd Facing Unbelted, Forward Seat Track, Handle Up



Graco Infant W/ Base Fwd Facing Unbelted, Middle Seat Track, Handle Up



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)

12 Month

Section B

Post TSB Suppression

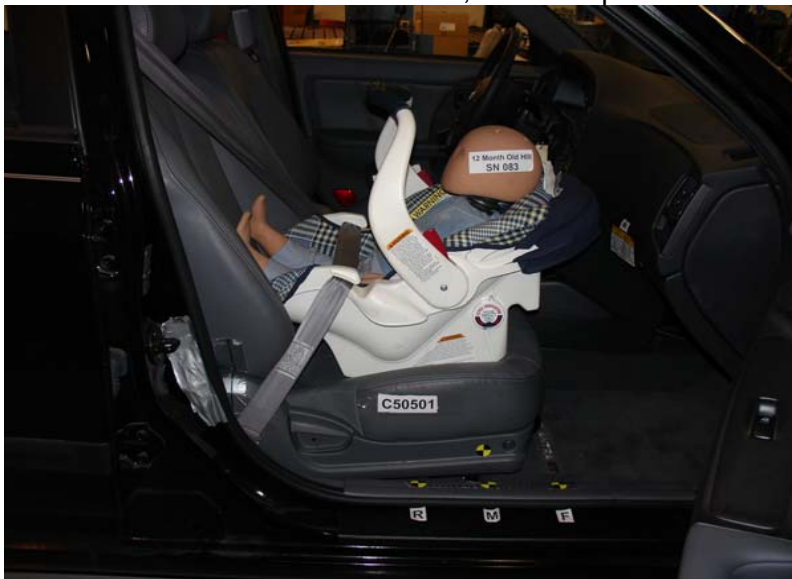
Rear Facing CRS



Graco Infant W/ Base Fwd Facing Unbelted,  
Rearward Seat Track, Handle Up



Graco Infant W/O Base With Belt,  
Forward Seat Track, Handle Up



Graco Infant W/O Base With Belt, Middle Seat Track,  
Handle Up



Graco Infant W/O Base With Belt, Rearward Seat Track,  
Handle Up





Graco Infant W/O Base Unbelted, Forward Seat Track, Handle Up



Graco Infant W/O Base Unbelted, Middle Seat Track, Handle Up



Graco Infant W/O Base Unbelted, Rearward Seat Track, Handle Up



Graco Infant W/O Base Fwd Facing Unbelted, Forward Seat Track, Handle Up

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section B

Post TSB Suppression  
Rear Facing CRS



Graco Infant W/O Base Fwd Facing Unbelted,  
Middle Seat Track, Handle Up



Graco Infant W/O Base Fwd Facing Unbelted,  
Rearward Seat Track, Handle Up



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track





Britax Roundabout 161 Fwd Facing With Belt,  
Forward Seat Track



Britax Roundabout 161 Fwd Facing With Belt,  
Middle Seat Track



Britax Roundabout 161 Fwd Facing With Belt,  
Rearward Seat Track



Britax Roundabout 161 Fwd Facing Unbelted,  
Forward Seat Track





Britax Roundabout 161 Fwd Facing Unbelted,  
Middle Seat Track



Britax Roundabout 161 Fwd Facing Unbelted,  
Rearward Seat Track



Britax Roundabout 161 Rear Facing With Belt,  
Forward Seat Track



Britax Roundabout 161 Rear Facing With Belt,  
Middle Seat Track

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post TSB Suppression  
Forward Facing Convertible CRS



Britax Roundabout 161 Rear Facing With Belt,  
Rearward Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Forward Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Middle Seat Track



Britax Roundabout 161 Rear Facing Unbelted,  
Rearward Seat Track

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post TSB Suppression  
Forward Facing Convertible CRS



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post TSB Suppression  
Forward Facing Convertible CRS



Century Encore Fwd Facing With Belt, Forward Seat Track



Century Encore Fwd Facing With Belt, Middle Seat Track



Century Encore Fwd Facing With Belt, Rearward Seat Track



Century Encore Fwd Facing Unbelted, Forward Seat Track

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)

12 Month

Section C

Post TSB Suppression

Forward Facing Convertible CRS



Century Encore Fwd Facing Unbelted, Middle Seat Track



Century Encore Fwd Facing Unbelted, Rearward Seat Track



Century Encore Rear Facing With Belt, Forward Seat Track



Century Encore Rear Facing With Belt, Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month  
Section C

Post TSB Suppression  
Forward Facing Convertible CRS



Century Encore Rear Facing With Belt, Rearward Seat Track



Century Encore Rear Facing Unbelted, Forward Seat Track



Century Encore Rear Facing Unbelted, Middle Seat Track



Century Encore Rear Facing Unbelted, Rearward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post TSB Suppression  
Forward Facing Convertible CRS



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post TSB Suppression  
Forward Facing Convertible CRS



Evenflo Medallion 254 Fwd Facing With Belt, Forward Seat Track



Evenflo Medallion 254 Fwd Facing With Belt, Middle Seat Track



Evenflo Medallion 254 Fwd Facing With Belt,  
Rearward Seat Track



Evenflo Medallion 254 Fwd Facing Unbelted,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month  
Section C

Post TSB Suppression  
Forward Facing Convertible CRS



Evenflo Medallion 254 Fwd Facing Unbelted,  
Middle Seat Track



Evenflo Medallion 254 Fwd Facing Unbelted,  
Rearward Seat Track



Evenflo Medallion 254 Rear Facing With Belt,  
Forward Seat Track



Evenflo Medallion 254 Rear Facing With Belt,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post TSB Suppression  
Forward Facing Convertible CRS



Evenflo Medallion 254 Rear Facing With Belt,  
Rearward Seat Track



Evenflo Medallion 254 Rear Facing Unbelted,  
Forward Seat Track



Evenflo Medallion 254 Rear Facing Unbelted,  
Middle Seat Track



Evenflo Medallion 254 Rear Facing Unbelted,  
Rearward Seat Track

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
12 Month

Section C

Post TSB Suppression  
Forward Facing Convertible CRS



Unbelted 5th Percentile Female Reactivation, Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
3 Year Old

Section C

Post TSB Suppression  
Forward Facing Convertible CRS



3-Year-Old Fwd Facing Britax Roundabout Belted,  
Forward Seat Track



3-Year-Old Fwd Facing Britax Roundabout Belted,  
Middle Seat Track



3-Year-Old Fwd Facing Britax Roundabout Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track





3-Year-Old Fwd Facing Century Encore Belted,  
Forward Seat Track



3-Year-Old Fwd Facing Century Encore Belted,  
Middle Seat Track



3-Year-Old Fwd Facing Century Encore Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track



3-Year-Old Fwd Facing Evenflo Medallion Belted,  
Forward Seat Track



3-Year-Old Fwd Facing Evenflo Medallion Belted,  
Middle Seat Track



3-Year-Old Fwd Facing Evenflo Medallion Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track



ES-28



3-Year-Old Century Next Step Belted, Forward Seat Track



3-Year-Old Century Next Step Belted, Middle Seat Track



3-Year-Old Century Next Step Belted,  
Rearward Seat Track



3-Year-Old Century Next Step Cinched With Harness,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
3 Year Old                      Section D                      Forward Facing Toddler

Post TSB Suppression  
Belt Positioning Booster



3-Year-Old Century Next Step Cinched With Harness,  
Middle Seat Track



3-Year-Old Century Next Step Cinched With Harness,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



3-Year-Old Cosco High Back Booster Belted,  
Forward Seat Track



3-Year-Old Cosco High Back Booster Belted,  
Middle Seat Track



3-Year-Old Cosco High Back Booster Belted,  
Rearward Seat Track



3-Year-Old Cosco High Back Booster Cinched With Harness,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
3 Year Old                      Section D                      Forward Facing Toddler

Post TSB Suppression  
Belt Positioning Booster



3-Year-Old Cosco High Back Booster Cinched With Harness,  
Middle Seat Track



3-Year-Old Cosco High Back Booster Cinched With Harness,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old                      Section D                      Forward Facing Toddler

Post TSB Suppression  
Belt Positioning Booster



6-Year-Old Century Next Step Belted, Forward Seat Track



6-Year-Old Century Next Strap Belted, Middle Seat Track



6-Year-Old Century Next Step Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)

6 Year Old

Section D

Forward Facing Toddler

Post TSB Suppression

Belt Positioning Booster



6-Year-Old Cosco High Back Booster Belted,  
Forward Seat Track



6-Year-Old Cosco High Back Booster Belted,  
Middle Seat Track



6-Year-Old Cosco High Back Booster Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old                      Section D                      Forward Facing Toddler

Post TSB Suppression  
Belt Positioning Booster



6-Year-Old Evenflo Right Fit Belted, Forward Seat Track



6-Year-Old Evenflo Right Fit Belted, Middle Seat Track



6-Year-Old Evenflo Right Fit Belted,  
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old  
No CRS

Post TSB Suppression



3-Year-Old Unbelted, Forward Seat Track, Position 1



3-Year-Old Unbelted, Forward Seat Track, Position 2



3-Year-Old Unbelted, Forward Seat Track, Position 3



3-Year-Old Unbelted, Forward Seat Track, Position 4

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old

No CRS

Post TSB Suppression



3-Year-Old Unbelted, Forward Seat Track, Position 5



3-Year-Old Unbelted, Forward Seat Track, Position 6



3-Year-Old Unbelted, Forward Seat Track, Position 7



3-Year-Old Unbelted, Middle Seat Track, Position 1



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old  
No CRS

Post TSB Suppression



3-Year-Old Unbelted, Middle Seat Track, Position 2



3-Year-Old Unbelted, Middle Seat Track, Position 3



3-Year-Old Unbelted, Middle Seat Track, Position 4



3-Year-Old Unbelted, Middle Seat Track, Position 5



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old  
No CRS

Post TSB Suppression



3-Year-Old Unbelted, Middle Seat Track, Position 6



3-Year-Old Unbelted, Middle Seat Track, Position 7



3-Year-Old Unbelted, Rearward Seat Track, Position 1



3-Year-Old Unbelted, Rearward Seat Track, Position 2

DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old  
No CRS

Post TSB Suppression



3-Year-Old Unbelted, Rearward Seat Track, Position 3



3-Year-Old Unbelted, Rearward Seat Track, Position 4



3-Year-Old Unbelted, Rearward Seat Track, Position 5



3-Year-Old Unbelted, Rearward Seat Track, Position 6



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old  
No CRS

Post TSB Suppression



3-Year-Old Unbelted, Rearward Seat Track,  
Position 7



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old  
No CRS

Post TSB Suppression



6-Year-Old Unbelted, Forward Seat Track, Position 1



6-Year-Old Unbelted, Forward Seat Track, Position 2



6-Year-Old Unbelted, Forward Seat Track, Position 3



6-Year-Old Unbelted, Forward Seat Track, Position 4



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old  
No CRS

Post TSB Suppression



6-Year-Old Unbelted, Forward Seat Track, Position 4, View 2



6-Year-Old Unbelted, Middle Seat Track, Position 1



6-Year-Old Unbelted, Middle Seat Track, Position 2



6-Year-Old Unbelted, Middle Seat Track, Position 3



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old  
No CRS

Post TSB Suppression



6-Year-Old Unbelted, Middle Seat Track, Position 4



6-Year-Old Unbelted, Middle Seat Track, Position 4, View 2



6-Year-Old Unbelted, Rearward Seat Track, Position 1



6-Year-Old Unbelted, Rearward Seat Track, Position 2



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
6 Year Old  
No CRS

Post TSB Suppression



6-Year-Old Unbelted, Rearward Seat Track, Position 3



6-Year-Old Unbelted, Rearward Seat Track, Position 4



6-Year-Old Unbelted, Rearward Seat Track, Position 4, View 2



Unbelted 5th Percentile Female Reactivation, Middle Seat Track



ES-45



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track, Human Subject 032



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track, Human Subject 032



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track, Human Subject 032



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track, Human Subject 037



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
5<sup>th</sup>% Human Female Subjects

After CA TSB Service Suppression



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track, Human Subject 037



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track, Human Subject 037



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track, Human Subject 013



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track, Human Subject 013



DOT/NHTSA 208 Suppression Test - 2005 Hyundai Elantra (C50501)  
5<sup>th</sup>% Human Female Subjects

After CA TSB Service Suppression



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track, Human Subject 013



Unbelted 5th Percentile Female Reactivation,  
Forward Seat Track, Human Subject 036



Unbelted 5th Percentile Female Reactivation,  
Middle Seat Track, Human Subject 036



Unbelted 5th Percentile Female Reactivation,  
Rearward Seat Track, Human Subject 036

**APPENDIX F**  
**INSTRUMENTATION CALIBRATION**

**INSTRUMENTS FOR DRIVER DUMMY NO. 507**

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	P49526	Endevco	04/04/06
Head Y	P49473	Endevco	04/04/06
Head Z	P49472	Endevco	04/04/06
Neck Load Cell	1561	Denton	02/28/06
Chest X	ET21144	Entran	12/14/05
Chest Y	ET21251	Entran	12/14/05
Chest Z	ET21152	Entran	12/14/05
Chest Displacement	507	Servo	02/08/06
Left Femur Load Cell	996	Denton	04/03/06
Right Femur Load Cell	994	Denton	04/03/06

**INSTRUMENTS FOR PASSENGER DUMMY NO. 510**

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	P49471	Endevco	04/04/06
Head Y	P49480	Endevco	04/04/06
Head Z	P49468	Endevco	04/04/06
Neck Load Cell	1673	Denton	01/06/06
Chest X	J23-M06	Entran	04/04/06
Chest Y	J23-M07	Entran	04/04/06
Chest Z	J23-M03	Entran	04/04/06
Chest Displacement	510	Servo	02/08/06
Left Femur Load Cell	992	Denton	04/03/06
Right Femur Load Cell	988	Denton	04/03/06



### INSTRUMENTS FOR LOW RISK 5<sup>TH</sup> FEMALE DUMMY NO. 506 (P1)

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	J35929	Endevco	01/26/05
Head Y	ALB87	Endevco	01/26/05
Head Z	P24154	Endevco	01/26/05
Neck Load Cell	376	Denton	09/29/04
Chest X	AJ819	Endevco	01/26/05
Chest Y	AJ7A2	Endevco	01/26/05
Chest Z	AJ9J7	Endevco	01/26/05
Chest Displacement	506	Servo	12/17/04
Left Femur Load Cell	1362	Denton	09/01/04
Right Femur Load Cell	1361	Denton	09/01/04

### INSTRUMENTS FOR LOW RISK 5<sup>TH</sup> FEMALE DUMMY NO. 516 (P2)

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	J20392	Endevco	09/17/04
Head Y	AGT18	Endevco	09/17/04
Head Z	ALDD6	Endevco	09/17/04
Neck Load Cell	606	Denton	11/12/04
Chest X	AN8L6	Endevco	09/17/04
Chest Y	AJ619	Endevco	09/17/04
Chest Z	APY13	Endevco	09/17/04
Chest Displacement	516	Servo	12/17/04
Left Femur Load Cell	84	Denton	11/03/04
Right Femur Load Cell	83	Denton	11/03/04

### VEHICLE INSTRUMENTS

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Left Rear Seat Crossmember X	C30-L03	Entran	01/18/06
Right Rear Seat Crossmember X	L02-Z20	Entran	01/20/06
Top of Engine X	H06-L18	Entran	12/07/05
Bottom of Engine X	P24154	Entran	02/27/06
Left Brake Caliper X	D11-Z12	Entran	01/13/06
Right Brake Caliper X	F29-X11	Entran	01/18/06
Instrument Panel X	L02-Z07	Entran	01/18/06
Trunk Z	C21-G03	Entran	01/18/06